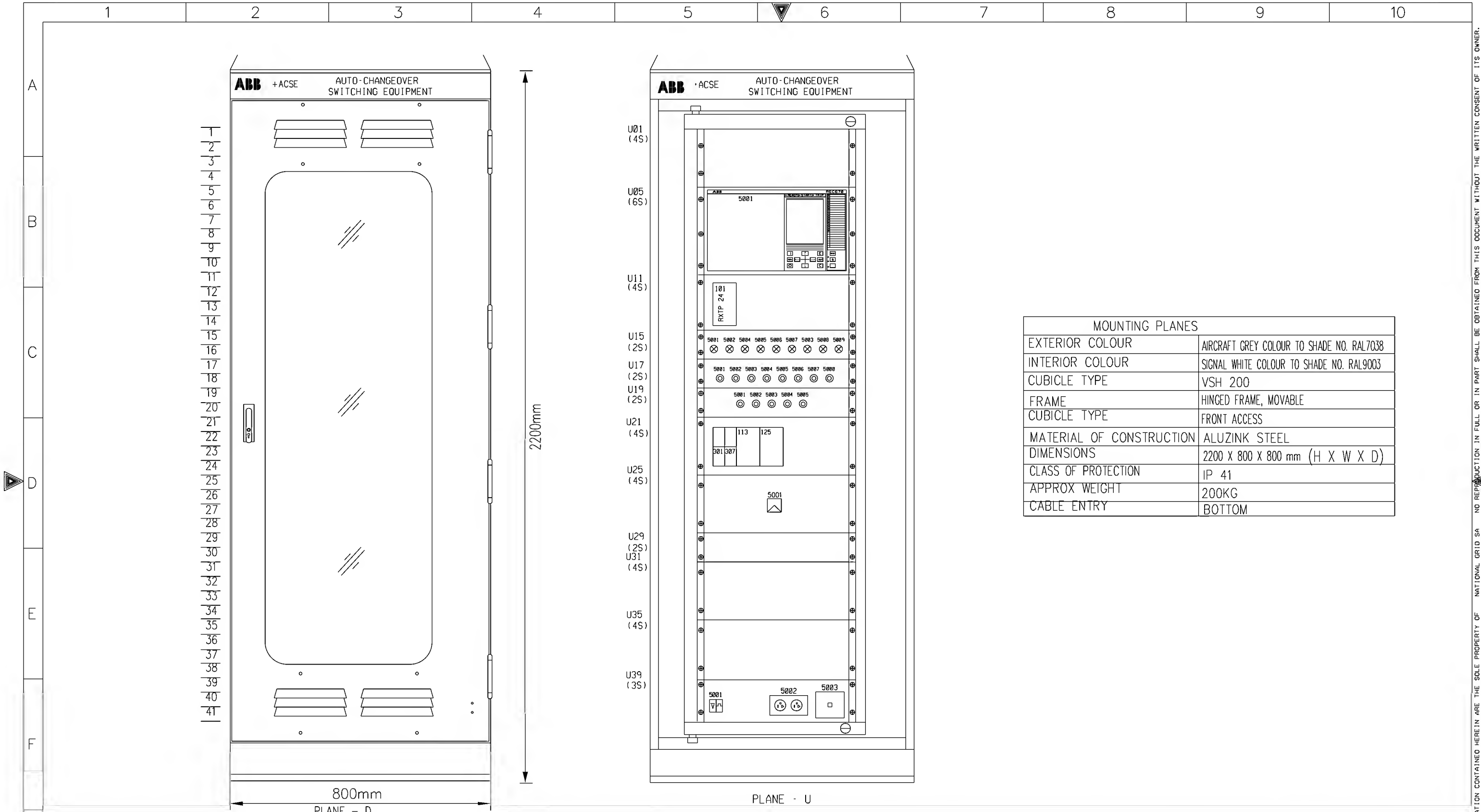
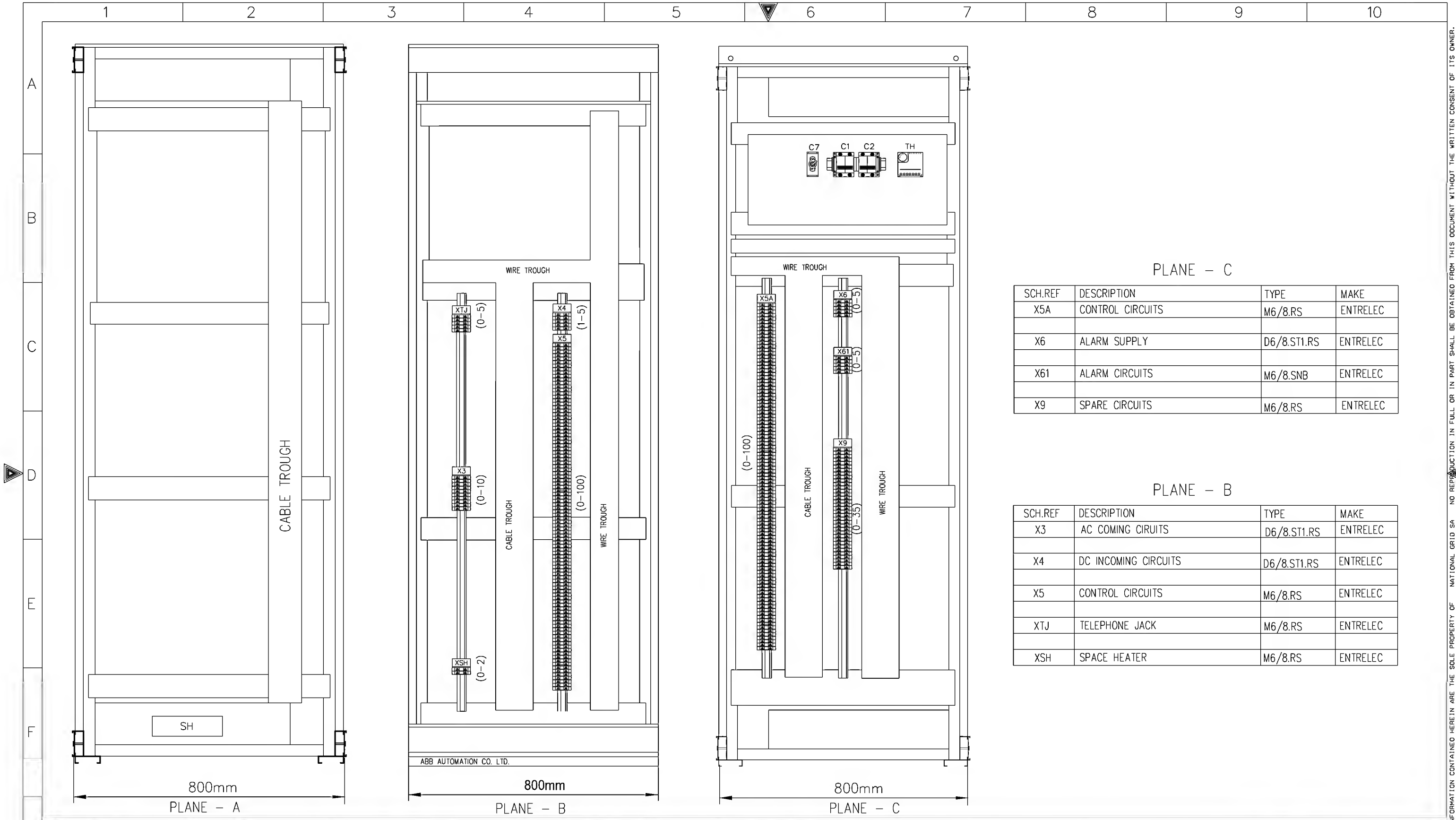


	1	2	3	4	5	6	7																												
A	<div><div>ABB</div><div>POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656</div></div>																																		
B																																			
C	CONTRACTOR : ABB Contracting Company																																		
D	CLIENT : National Gridsa																																		
E	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8																																		
F	SUBSTATION : S/S 8709																																		
	CONTRACT NO. : 11131113/00																																		
	TITLE : Assembly Drawing – +ACSE(AUTO CHA																																		
G	<table><tr><td colspan="2">AS-BUILT BY _____ DATE _____</td><td>CONTRACT NO. 11131113/00</td><td>JOB ORDER NO. S-13656</td><td colspan="3">COVER SHEET</td></tr><tr><td></td><td></td><td></td><td>DRAWN BY RIZ CHECKED BY KVR</td><td colspan="3">13.8kV AUTO CHANGE OVER SWITCHING EQUIPT</td></tr><tr><td>00</td><td>13 04</td><td>FOR APPROVAL</td><td>DATE STARTED 24.01.2013 DATE COMPLETED _____</td><td colspan="3">S/S 8709 - 132/13.8KV IN AL-KHARJ CITY</td></tr><tr><td>REV. NO.</td><td>DATE</td><td>DESCRIPTION</td><td>OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC</td><td colspan="3">RIYADH SAUDI ARABIA</td></tr></table>							AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	COVER SHEET						DRAWN BY RIZ CHECKED BY KVR	13.8kV AUTO CHANGE OVER SWITCHING EQUIPT			00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____	S/S 8709 - 132/13.8KV IN AL-KHARJ CITY			REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC	RIYADH SAUDI ARABIA		
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	COVER SHEET																															
			DRAWN BY RIZ CHECKED BY KVR	13.8kV AUTO CHANGE OVER SWITCHING EQUIPT																															
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____	S/S 8709 - 132/13.8KV IN AL-KHARJ CITY																															
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC	RIYADH SAUDI ARABIA																															



MOUNTING PLANES	
EXTERIOR COLOUR	AIRCRAFT GREY COLOUR TO SHADE NO. RAL7038
INTERIOR COLOUR	SIGNAL WHITE COLOUR TO SHADE NO. RAL9003
CUBICLE TYPE	VSH 200
FRAME	HINGED FRAME, MOVABLE
CUBICLE TYPE	FRONT ACCESS
MATERIAL OF CONSTRUCTION	ALUZINK STEEL
DIMENSIONS	2200 X 800 X 800 mm (H X W X D)
CLASS OF PROTECTION	IP 41
APPROX WEIGHT	200KG
CABLE ENTRY	BOTTOM

AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ASSEMBLY DRAWING		الشركة الوطنية لنقل الكهرباء National Grid sa	
		DRAWN BY RIZ		CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIP			
		DATE STARTED 24.01.2013		DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY			
		OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA			
REV. NO.		DATE		DESCRIPTION		INDEX		PLANT NO.	
00		13 04		FOR APPROVAL		-		C421	
								DRAWING NUMBER	
								CD-322960	
								SHEET NO.	
								SHT CONT.	
								00	
								NG/D2-D (2012/01)	
								DMS VECTOR	
								NGD200	



PLANE – C

SCH.REF	DESCRIPTION	TYPE	MAKE
X5A	CONTROL CIRCUITS	M6/8.RS	ENTRELEC
X6	ALARM SUPPLY	D6/8.ST1.RS	ENTRELEC
X61	ALARM CIRCUITS	M6/8.SNB	ENTRELEC
X9	SPARE CIRCUITS	M6/8.RS	ENTRELEC

PLANE – B

SCH.REF	DESCRIPTION	TYPE	MAKE
X3	AC COMING CIRUITS	D6/8.ST1.RS	ENTRELEC
X4	DC INCOMING CIRCUITS	D6/8.ST1.RS	ENTRELEC
X5	CONTROL CIRCUITS	M6/8.RS	ENTRELEC
XTJ	TELEPHONE JACK	M6/8.RS	ENTRELEC
XSH	SPACE HEATER	M6/8.RS	ENTRELEC

AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

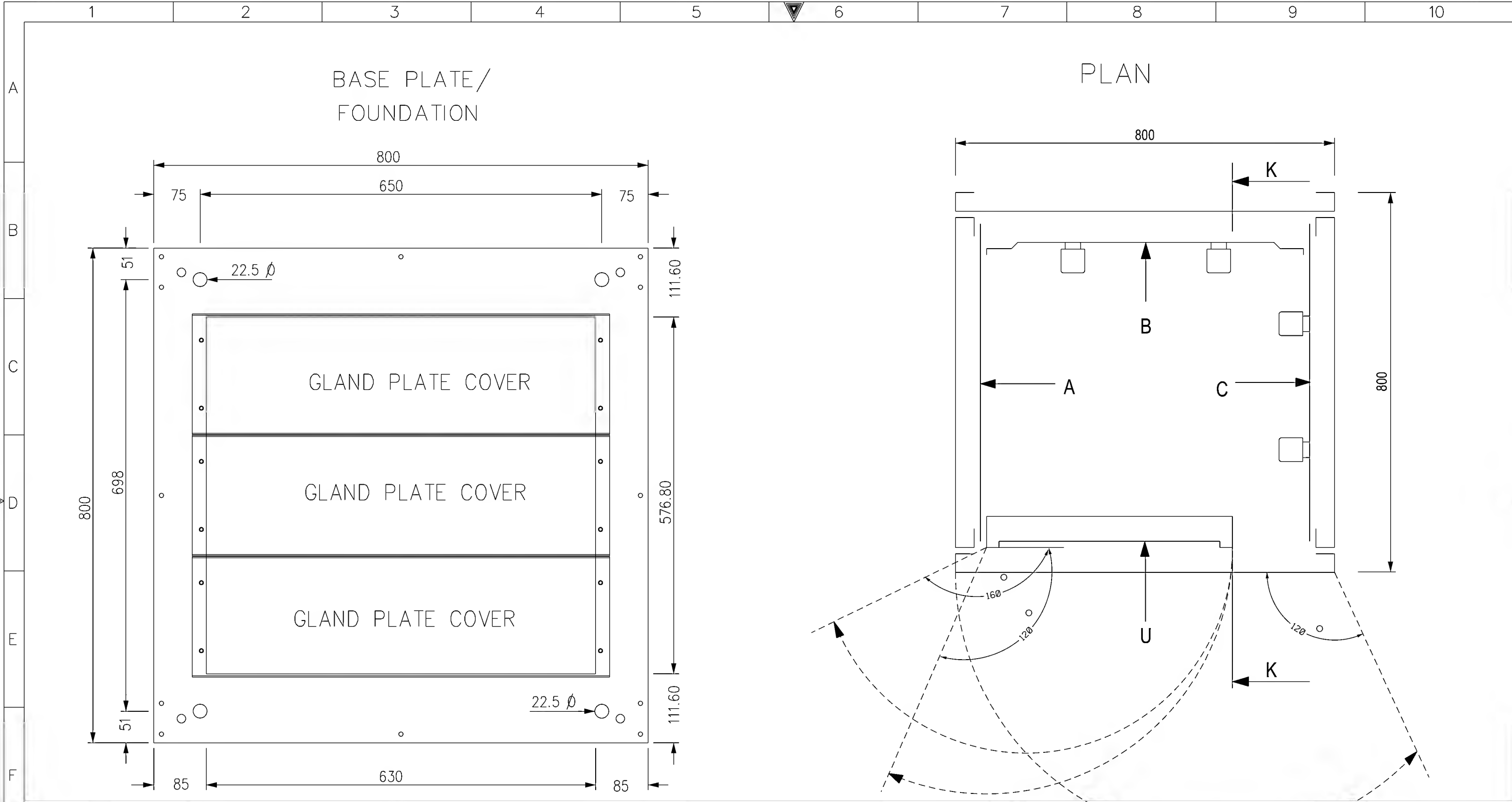
			DRAWN BY RIZ	CHECKED BY KVR
			DATE STARTED 24.01.2013	DATE COMPLETED _____
			OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC
00	13 04	FOR APPROVAL		
REV. NO.	DATE	DESCRIPTION		

ASSEMBLY DRAWING

13.8kV AUTO CHANGE OVER SWITCHING EQUIP  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء  
National Grid sa

INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322960	SHT	CONT.	00
			G02	G03	



AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>	
			DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____	
			OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>	
00	13 04	FOR APPROVAL		
REV. NO.	DATE	DESCRIPTION		

ASSEMBLY DRAWING


13.8kV AUTO CHANGE OVER SWITCHING EQUIPMENT  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA


الشركة الوطنية لنقل الكهرباء



INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
			SHT	CONT.	
-	C421	CD-322960	G03	G04	00



	1	2	3	4	5	6	7	8	9	10
A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD., 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A		
B										
C										
D	CONTRACTOR : ABB Contracting Company									
	CLIENT : National Gridsa									
	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY									
	SUBSTATION : S/S 8709									
E	CONTRACT NO. : 11131113/00									
F	TITLE : LIST OF APPARATUS – +ACSE [AUTO CHANGE OVER SWITHING EQUIP.]									

G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	COVER SHEET		 <b>نقل الكهرباء</b> الشركة الوطنية لنقل الكهرباء National Grid sa						
			DRAWN BY RIZ	CHECKED BY KVR	13.8kV AUTO CHANGE OVER SWITCHING EQUIPT								
			DATE STARTED 24.01.2013	DATE COMPLETED _____	S/S 8709 - 132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.		
	00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC	RIYADH SAUDI ARABIA	-	C421	CD-322960	L00 L01	00		
		REV. NO.	DATE	DESCRIPTION									
											NG/D2-D (2012/01)		
											DMS VECTOR		NGD200



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A										
	SR. NO.	LOCATION REF.	SCH REF.	D E S C R I P T I O N	SHT NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION	
	6	U17.5001	S01	PUSH BUTTON BLACK COLOUR WITH 2N/O CONTACTS FOR 'ACSE ABORT'	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
B	7	U17.5002	S02	PUSH BUTTON BLACK COLOUR WITH 1N/O CONTACTS FOR LED RESET	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	8	U17:5003	S03	PUSH BUTTON BLACK COLOUR UNIT FOR "ACSE-IN" CONTACTS DATA : 2NO	226	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	9	U17:5004	S04	PUSH BUTTON BLACK COLOUR UNIT FOR "ACSE-OUT" CONTACTS DATA : 2NO	226	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
C	10	U17:5005	S05	PUSH BUTTON BLACK COLOUR UNIT FOR "TOP-IN" CONTACTS DATA : 2NO	226	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	11	U17:5006	S06	PUSH BUTTON BLACK COLOUR UNIT FOR "TOP-OUT" CONTACTS DATA : 2NO	226	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	12	U17:5007 U17:5008	S07 PBLT	PUSH BUTTON BLACK COLOUR UNIT WITH 2NO CONTACTS FOR TOP ABORT.	223,224A	2	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
D	13	U19:5001	S08	PUSH BUTTON BLACK COLOUR UNIT WITH 2NO CONTACTS FOR TRIP ON PARALLEL REQUEST - GT-1 LV CB(S1305)	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	14	U19:5002	S09	PUSH BUTTON BLACK COLOUR UNIT WITH 2NO CONTACTS FOR TRIP ON PARALLEL REQUEST - GT-2 LV CB(S1205)	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	15	U19:5003	S10	PUSH BUTTON BLACK COLOUR UNIT WITH 2NO CONTACTS FOR TRIP ON PARALLEL REQUEST - GT-3 LV CB(S3605)	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
E	16	U19:5004	S11	PUSH BUTTON BLACK COLOUR UNIT WITH 2NO CONTACTS FOR TRIP ON PARALLEL REQUEST - BS1 CB(S120)	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	17	U19:5005	S12	PUSH BUTTON BLACK COLOUR UNIT WITH 2NO CONTACTS FOR TRIP ON PARALLEL REQUEST - BS2 CB(S320)	223	1	MP1-10B MCBH-20	ABB	1SFA 611 100 R1006 1SFA 611 605 R1102	
	18	U21.301	K7X/Y	DUAL COIL AUXILARY RELAY "IN PUT DISCREPENY/ACSE FAULTY" CONTACTS : 3 NO PER COIL AUX. VOLTAGE : 110-125V DC FLAG : HAND RESET	226	1	RXSF1	ABB	RK 271 018-AN	
F	19	U21.113	ACSEX	DUAL COIL AUXILARY RELAY FOR ACSE OUT AUXILIARY VOLTAGE : 125V DC CONTACTS DATA : 7 NO. +7NC	226	1	RXMBV4	ABB	RK 251 401-AP	

G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>				
			DRAWN BY RIZ CHECKED BY KVR		13.8kv AUTO CHANGE OVER SWITCHING EQUIPT		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
			DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY					SHT	CONT.
	00	13 04	FOR APPROVAL		RIYADH SAUDI ARABIA		-	C421	CD-322960	L02	L03
	REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC						

NG/D2-D (2012/01)

DMS VECTOR


NGD200



[illegible]



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G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid sa</div>				
				DRAWN BY RIZ CHECKED BY KVR	13.8kV AUTO CHANGE OVER SWITCHING EQUIPT		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
				DATE STARTED 24.01.2013 DATE COMPLETED _____	S/S 8709-132/13.8KV IN AL-KHARJ CITY					SHT CONT.	
	00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC	RIYADH SAUDI ARABIA		-	C421	CD-322960	L05L06	00
	REV. NO.	DATE	DESCRIPTION								

NG/D2-D (2012/01)  
DMS VECTOR NGD200


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C										
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LABEL REF.	LABEL ENGRAVING	MATERIALS	ENGRAVING	LABEL SIZE	LETTER SIZE
C1	C1 127V AC SUPPLY MCB	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
C2	C2 220V AC SUPPLY MCB	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
C3	C3 THERMOSTAT	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
C7	C7 ON/OFF SWITCH	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
DS	DS DOOR SWITCH	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
IL	IL ILLUMINATION LAMP	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
SH	SH SPACE HEATER	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
U39.5001	U39.5001 MCB FOR ACSE	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
U39.5002	U39.5002 C01-127,C02-220V	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
U39.5003	U39.5003 TJ	TRAFOLITE	BLACK LETTERS ON WHITE BACKGROUND	50X15mm	4mm
U21.301	U21.301 K7X/Y	ALUMINUM PAPER FOIL	BLACK LETTERS	50X10mm	3mm
U21.307	U21.307 74 ACSE/SPARE	ALUMINUM PAPER FOIL	BLACK LETTERS	50X10mm	3mm
U21.113	U21.113 ACSEX	ALUMINUM PAPER FOIL	BLACK LETTERS	50X10mm	3mm
U21.125	U21.125 TOPX	ALUMINUM PAPER FOIL	BLACK LETTERS	50X10mm	3mm
U25.5001	U25.5001 SS L/R	ALUMINUM PAPER FOIL	BLACK LETTERS	50X10mm	3mm

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
			DRAWN BY RIZ	CHECKED BY KVR
			DATE STARTED 24.01.2013	DATE COMPLETED _____
00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC
REV. NO.	DATE	DESCRIPTION		

LIST OF APPARATUS	
13.8kV AUTO CHANGE OVER SWITCHING EQUIPT	
S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH SAUDI ARABIA	

الشركة الوطنية لنقل الكهرباء		نقل الكهرباء		National Grid sa	
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.	
-	C421	CD-322960	SHT L06	CONT. ---	00

	1	2	3	4	5	6	7	8	9	10
A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD. 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A		
B										
C	CONTRACTOR : ABB Contracting Company									
	CLIENT : National GridSA									
D	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY									
	SUBSTATION : S/S 8709									
E	CONTRACT NO. : 11131113/00									
	TITLE : SCHEMATICS DRAWINGS +ACSE (AUTO CHANGE OVER SWITCHING EQUIPT.)									
F										

G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	CONTENTS SHEET		 الشركة الوطنية لنقل الكهرباء National Grid sa			
			DRAWN BY RIZ CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT					
			DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709 - 132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.
	00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA	-	C421	CD-322962	SHT 000 CONT. 001
		REV. NO.	DATE	DESCRIPTION						

DMS VECTOR

NG/D2-D (2012/01)  
NGD200

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CONTENTS	ABB SHT.NO.	REV.00	REV.01	REV.02
COVER SHEET	000	X		
CONTENTS SHEET	001	X		
GRAPHICAL SYMBOLS FOR DIAGRAMS	011	X		
GRAPHICAL SYMBOLS FOR DIAGRAMS	012	X		
COMMON LEGEND	013	X		
FERULE AND WIRING DETAILS	014	X		
DRAWING REFERENCES	015	X		
AC SUPPLY FOR ILLUMINATION & POWER SOCKET	211	X		
AC SUPPLY AUXILARY CONTACTS	212	X		
DC SUPPLY DISTRIBUTION	213	X		
ACSE INPUTS	219	X		
ACSE INPUTS	220	X		
ACSE INPUTS	221	X		
ACSE INPUTS	222	X		
ACSE INPUTS	223	X		
ACSE INPUTS	224	X		
ACSE INDICATION	224A	X		
ACSE IN/OUT,TOP IN/OUT	226	X		
13.8kV CB S1105&S1205 TRIP,CLOSE BLOCK & CLOSE	Ckt229	X		
13.8kV CB S4205 TRIP,CLOSE BLOCK & CLOSE Ckt	230	X		
13.8kV CB S120 & S320 TRIP,CLOSE BLOCK & CLOSE	Ckt 231	X		
STATION COMMON ALARM CIRCUITS	237	X		

CONTENTS	ABB SHT.NO.	REV.00	REV.01	REV.02
SPARE CONTACTS	238	X		
BLOCK REFERENCE	298	X		
BLOCK REFERENCE	298A	X		
BLOCK REFERENCE	298B	X		
BLOCK REFERENCE	298C	X		
BLOCK REFERENCE	298D	X		
BLOCK REFERENCE	298E	X		
BLOCK REFERENCE	298F	X		
BLOCK REFERENCE	298G	X		
TERMINAL BLOCK ALLOCATION	302	X		

AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CONTENTS SHEET		<div>الشركة الوطنية لنقل الكهرباء</div> <div><div></div>نقل الكهرباء</div> <div>National Grid SA</div>	
		DRAWN BY RIZ		CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT			
		DATE STARTED 24.01.2013		DATE COMPLETED		S/S 8709-132/13.8KV IN AL-KHARJ CITY			
		OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH		SAUDI ARABIA	

REV. NO.	DATE	DESCRIPTION	INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
00	13 04	FOR APPROVAL	-	C421	CD-322962	SHT	CONT.	00
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NG/D2-D (2012/01)

DMS

VECTOR

NGD200

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FRAME CONNECTION		MAIN CONTACT OF A CIRCUIT BREAKER		RELAY WITH TWO MAKE CONTACTS, ONE OF THEM DELAYED WHEN OPERATING
	EARTH CONNECTION		PASSING MAKE CONTACT CLOSING MOMENTARILY DURING OPERATION AND RELEASE		RELAY WITH TWO ACTUATORS AND A TWO STABLE POSITIONS
	RESISTOR		BREAK CONTACT DELAYED WHEN OPERATING		SIGNALLING LAMP
	VARIABLE RESISTOR		MAKE CONTACT DELAYED WHEN RELEASING		MECHANICAL INDICATOR WITH AUTOMATIC RESET
	RESISTOR WITH PRESET ADJUSTMENT		TWO MECHANICAL LINKS CROSSING WITHOUT CONNECTION		MECHANICAL INDICATOR WITH NON-AUTOMATIC RESET
	CAPACITOR		JUNCTION OF MECHANICAL LINKS		ELECTRICALLY CONTROLLED MECHANICAL INDICATOR WITH AUTOMATIC RESET
	SEMICONDUCTOR DIODE USED AS A CAPACITIVE DEVICE		AUTOMATIC RESET		ELECTRICALLY CONTROLLED MECHANICAL INDICATOR WITH NON-AUTOMATIC RESET
	OPEN CONTACT, MAKE CONTACT		NON-AUTOMATIC RESET		RELAY WITH MAKE CONTACT
	CLOSED CONTACT, BREAK CONTACT		SWITCHING DEVICE WITH MANUAL OPERATION AND WITH AUTOMATIC RESET		RELAY WITH CHANGE-OVER CONTACT
	CHANGE-OVER CONTACT, BREAK BEFORE MAKE		SWITCHING DEVICE WITH MANUAL OPERATION AND WITH NON-AUTOMATIC RESET		ELECTRO-MECHANICAL POSITION INDICATOR WITH ONE DE-ENERGIZED AND ONE OPERATED POSITION
	MAKE CONTACT WHICH IS EARLY WHEN OPERATING AND LATE WHEN RELEASING		CHANGE-OVER SWITCHING DEVICE WITH MANUAL CONTROL AUTOMATIC RESET FROM POSITION 1-2 TO THE NEUTRAL POSITION		RELAY WITH MECHANICAL INDICATOR
	BREAK CONTACT WHICH IS LATE WHEN OPERATING AND EARLY WHEN RELEASING		RELAY WITH MAKE CONTACT, DELAYED WHEN OPERATING		ELECTRO-MECHANICAL POSITION INDICATOR WITH ONE DE-ENERGIZED AND TWO OPERATED POSITIONS
	SWITCHING DEVICE WITH MANUAL CONTROL		RELAY WITH MAKE CONTACT, DELAYED WHEN RELEASING		BELL, BUZZER
	MAKE CONTACT DELAYED WHEN OPERATING		RELAY WITH MAKE CONTACT, DELAYED WHEN OPERATING AND RELEASING		SIREN, HORN
	BREAK CONTACT DELAYED WHEN RELEASING				
	MAIN CONTACT OF A SWITCH DISCONNECTOR				
	MAIN CONTACT OF A DISCONNECTOR				

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		GRAPHICAL SYMBOLS FOR DIAGRAMS 13.8kV AUTO CHANGE OVER SWITCHING EQUIPT S/S 8709-132/13.8KV IN AL-KHARJ CITY RIYADH SAUDI ARABIA			نقل الكهرباء الشركة الوطنية لنقل الكهرباء National Grid sa														
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>					INDEX			PLANT NO.		DRAWING NUMBER		SHEET NO.		REV. NO.							
00			13 04		FOR APPROVAL			DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____																
REV. NO.			DATE			DESCRIPTION			OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>															
												-			C421		CD-322962		SHT 011		CONT. 012		00	

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FUSE / LINK		WATTMETER		ELEMENT WITH NEGATED INHIBITING INPUT
	FUSE WITH THE SUPPLY SIDE INDICATED		VARMETER		ELEMENT WITH INPUT WHICH DOES NOT CARRY ANY LOGIC INFORMATION
	SINGLE-PHASE TRANSFORMER WITH TWO SEPARATE WINDINGS (TWO ALTERNATIVE FORMS)		POWER FACTOR METER		ELEMENT WITH POSTPONED OUTPUT
	SINGLE-PHASE TRANSFORMER WITH THREE SEPARATE WINDINGS (TWO ALTERNATIVE FORMS)		POSITION INDICATOR		AND-ELEMENT WITH TWO INPUTS
	SINGLE-PHASE TRANSFORMER WITH FERRO MAGNETIC CORE		SYNCHROSCOPE		OR-ELEMENT WITH TWO INPUTS
	SINGLE-PHASE VOLTAGE TRANSFORMER (MULTI-LINE AND SINGLE-LINE REPRESENTATION)		RECORDING VOLTMETER		LOGIC THRESHOLD ELEMENT WITH FOUR INPUTS AND THRESHOLD VALUE 2
	SINGLE-PHASE VOLTAGE TRANSFORMER WITH TWO SECONDARY WINDINGS (MULTI-LINE AND SINGLE-LINE REPRESENTATION)		RECORDING WATTMETER		ELEMENT WITH THREE INPUTS FOR *2 AND ONLY 2
	CURRENT TRANSFORMER (MULTI-LINE AND SINGLE-LINE REPRESENTATION)		HOUR METER		EXCLUSIVE OR-ELEMENT WITH THREE INPUTS
	CURRENT TRANSFORMER WITH TWO CORES (MULTI-LINE AND SINGLE-LINE REPRESENTATION)		WATT-HOUR METER		LOGIC IDENTITY ELEMENT WITH THREE INPUTS
	CURRENT TRANSFORMER WITH TWO SECONDARY WINDINGS ON ONE CORE (MULTI-LINE AND SINGLE-LINE REPRESENTATION)		WATT-HOUR METER FOR ENERGY FROM A BUSBAR SYSTEM		MAJORITY ELEMENT WITH THREE INPUTS
	FILTER		ELEMENT WITH STATIC INPUT		NEGATOR
	HIGH-PASS FILTER		ELEMENT WITH STATIC NEGATED OUTPUT		NAND ELEMENT WITH TWO INPUTS
	BAND-PASS FILTER		ELEMENT WITH DYNAMIC INPUT		NOR ELEMENT WITH TWO INPUTS
	VOLTMETER		ELEMENT WITH DYNAMIC NEGATED INPUT		BISTABLE ELEMENT
	AMMETER		ELEMENT WITH INHIBITING INPUT		

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		 <b>نقل الكهرباء</b> الشركة الوطنية لنقل الكهرباء National Grid sa	
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		GRAPHICAL SYMBOLS FOR DIAGRAMS			
			DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT			
00 13 04 FOR APPROVAL			OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		S/S 8709-132/13.8KV IN AL-KHARJ CITY			
REV. NO. _____ DATE _____ DESCRIPTION _____					RIYADH SAUDI ARABIA			
							INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.	
							SHT CONT.	
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LEGENDS

±R1	DC SUPPLY – MAIN PROTECTION
±R2	DC SUPPLY – SECONDARY PROTECTION
±R3	DC SUPPLY – BACK UP PROTECTION
±IT	DC SUPPLY – INTER TRIP
FL	DC SUPPLY – FLASHING CIRCUIT
BB RS±	DC SUPPLY – BUS BAR – PROTECTION RESET
BB CBF±/CBF±	DC SUPPLY – CBF PROTECTION
R	RESET BUS – ALARM SYSTEM
CR	CONTROL ROOM
ECC	ENERGY CONTROL CENTRE
LOCAL	THE LOCATION OF CONTROLLED DEVICE
REMOTE	ANY OTHER LOCATION NOT LOCAL
ON	CB NORMALLY OPEN AUXILIARY CONTACT
OFF	CB NORMALLY CLOSED AUXILIARY CONTACT
A	COMMON
T	TEST POSITION
S	SERVICE POSITION
CS	CLOSE IN SERVICE POSITION
CT	CLOSE IN TEST POSITION
LS	LOCAL SERVICE
LT	LOCAL TEST
LC	LOCAL CLOSE
LO	LOCAL OPEN
RO	REMOTE OPEN

NOTES

LABELS

WHITE LABEL WITH BLACK LETTERING WILL BE PROVIDED FOR ALL MOUNTED APPARATUS EQUIPMENT IDENTIFICATION AND FUNCTION REFERENCE LABEL WILL BE PROVIDED FOR FRONT MOUNTED EQUIPMENTS OF THE PANEL AND EQUIPMENT IDENTIFICATION LABEL WILL BE PROVIDED FOR INTERNALLY MOUNTED EQUIPMENTS

LUGS

- A. CT CIRCUITS– RING TYPE
- B. OTHER CIRCUITS – SPADE TYPE

FERULLING

YELLO TUBE 3.2 mm FOR 1.5SQ mm WIRES AND 4.2 FOR 2.5 SQ mm WIRES ( AS PER 31 – TMSS–1, RE.0 )

AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

			DRAWN BY RIZ	CHECKED BY KVR
			DATE STARTED 24.01.2013	DATE COMPLETED
00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC
REV. NO.	DATE	DESCRIPTION		

COMMON LEGENDS

13.8kV AUTO CHANGE OVER SWITCHING EQUIPT  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



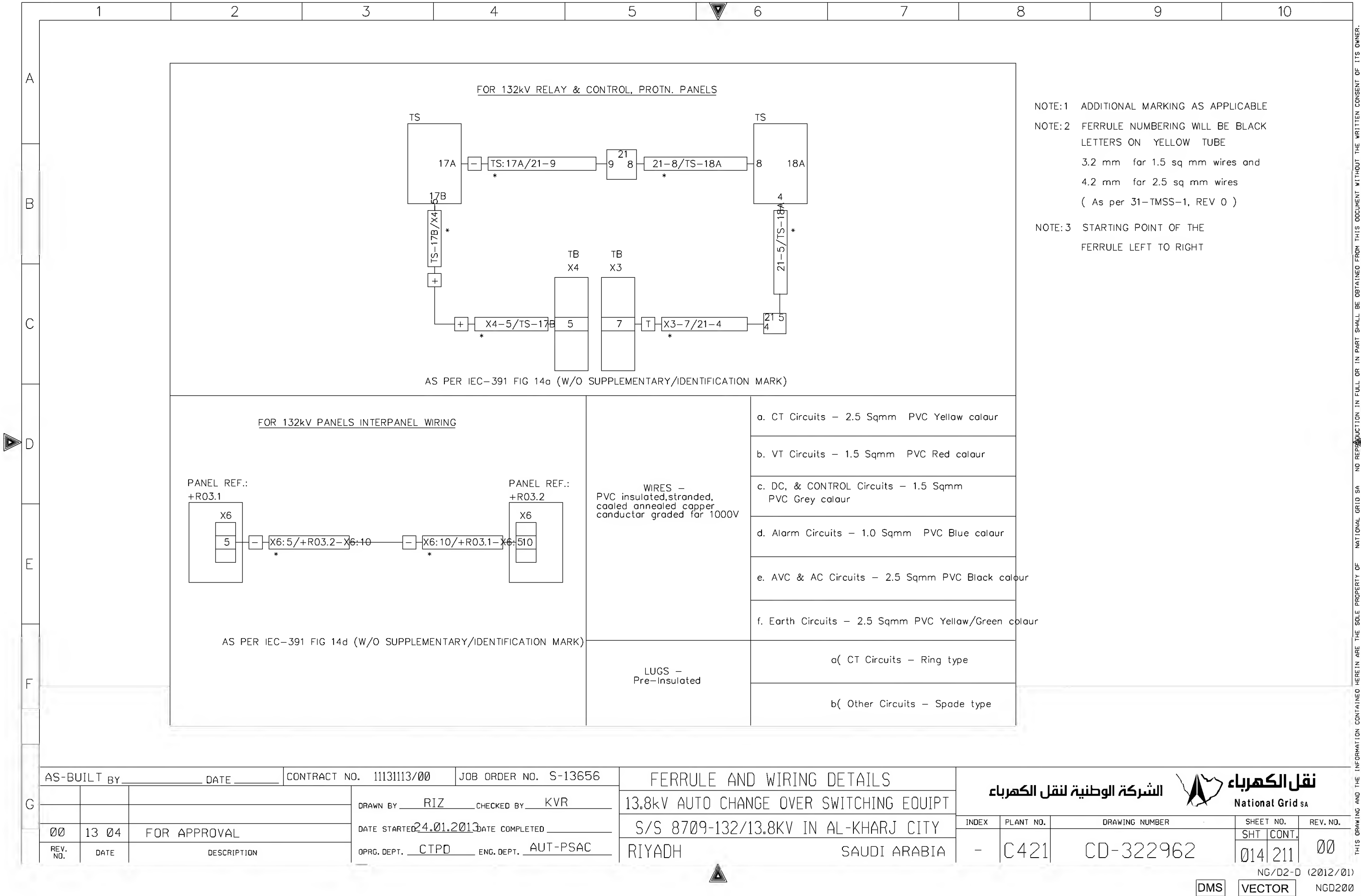
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
-	C421	CD-322962	SHT 013	CONT. 014
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NG/D2-D (2012/01)


DMS

VECTOR

NGD200



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E										
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MANUFACTURER	SCHEMATICS DWG.NO	PANEL DESCRIPTION	PANEL REFERENCE
 PROTECTION & SUBSTATION AUTOMATION		SS 8709 132kV RELAY PANELS	
	CD-322928	132/13.8kV GT-1 RELAY PANEL -1	+R05.1
		132/13.8kV GT-1 RELAY PANEL -2	+R05.2
	CD-322931	132/13.8kV GT-2 RELAY PANEL -1	+R01.1
		132/13.8kV GT-2 RELAY PANEL -2	+R01.2
	CD-322934	132/13.8kV GT-3 RELAY PANEL -1	+R04.1
		132/13.8kV GT-3 RELAY PANEL -2	+R04.2
	CD-322936	132/13.8kV TRANSFORMER-1,2& 3 AVC PANEL	+AVC
	CD-322922	132KV SPARE-1 UGF RELAY PANEL -1	+R07.1
		132KV SPARE-1 UGF RELAY PANEL -2	+R07.2
	CD-322916	132KV 8020 UGF RELAY PANEL -1	+R02.1
		132KV 8020 UGF RELAY PANEL -2	+R02.2
	CD-322919	132KV 8710 UGF RELAY PANEL -1	+R03.1
		132KV 8710 UGF RELAY PANEL -2	+R03.2
	CD-322925	132KV SPARE-2 UGF RELAY PANEL -1	+R06.1
		132KV SPARE-2 UGF RELAY PANEL -2	+R06.2
	CD-323012	132KV FOIP PANEL	+FOIP
	CD-322946	132kV BUS COUPLER-A	+R130
	CD-322948	132kV BUS COUPLER-B	+R230
	CD-322950	132kV BUS SECTION	+R120
	CD-322991	132kV BUSBAR PROTECTION MAIN-1 CENTRAL UNIT PANEL	+BB1-1
	CD-322993	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-2
	CD-322995	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-3
	CD-322997	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-4
	CD-322999	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-5
	CD-323001	132kV BUSBAR PROTECTION MAIN-2 CENTRAL UNIT PANEL	+BB2-1
	CD-323003	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-2
	CD-323005	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-3
	CD-323007	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-4
	CD-323009	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-5

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
			DRAWN BY RIZ	CHECKED BY KVR
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013	DATE COMPLETED _____
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC

DRAWING REFERENCES	
13.8kV AUTO CHANGE OVER SWITCHING EQUIPT	
S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH SAUDI ARABIA	

الشركة الوطنية لنقل الكهرباء		 نقل الكهرباء National Grid SA		
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
-	C421	CD-322962	SHT 015	CONT. 016
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MANUFACTURER	SCHEMATICS DWG.NO	PANEL DESCRIPTION	PANEL REFERENCE
 PROTECTION & SUBSTATION AUTOMATION		SS 8709 13.8KV RELAY PANELS	
	CD-322952	13.8KV Capacitor Bank-1 Protection Panel	+CBP-1
	CD-322954	13.8KV Capacitor Bank-2 Protection Panel	+CBP-2
	CD-322956	13.8KV Capacitor Bank-2 Protection Panel	+CBP-3
	CD-322958	13.8 KV ACCS PANEL	+ACCS
	CD-322962	13.8KV ACSE PANEL	+ACSE
	CD-322968	13.8KV Under Voltage Load Shedding Panel	+UVLS
	CD-322964	13.8KV Under Frequency Load Shedding Panel-1	+UFLS01
	CD-322966	13.8KV Under Frequency Load Shedding Panel-2	+UFLS02

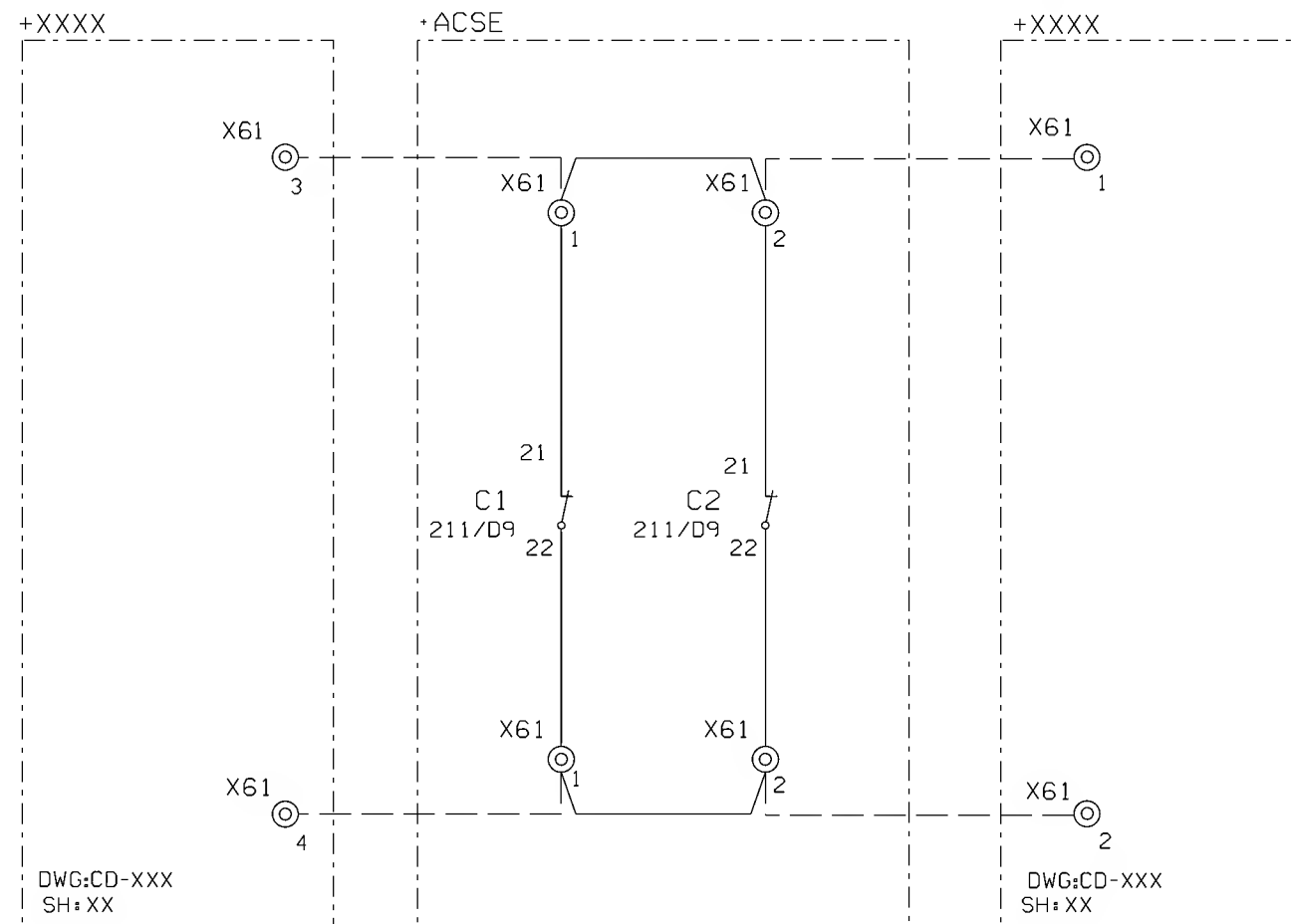
AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656


			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>
			DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____
<u>00</u>	<u>13 04</u>	FOR APPROVAL	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>
REV. NO.	DATE	DESCRIPTION	

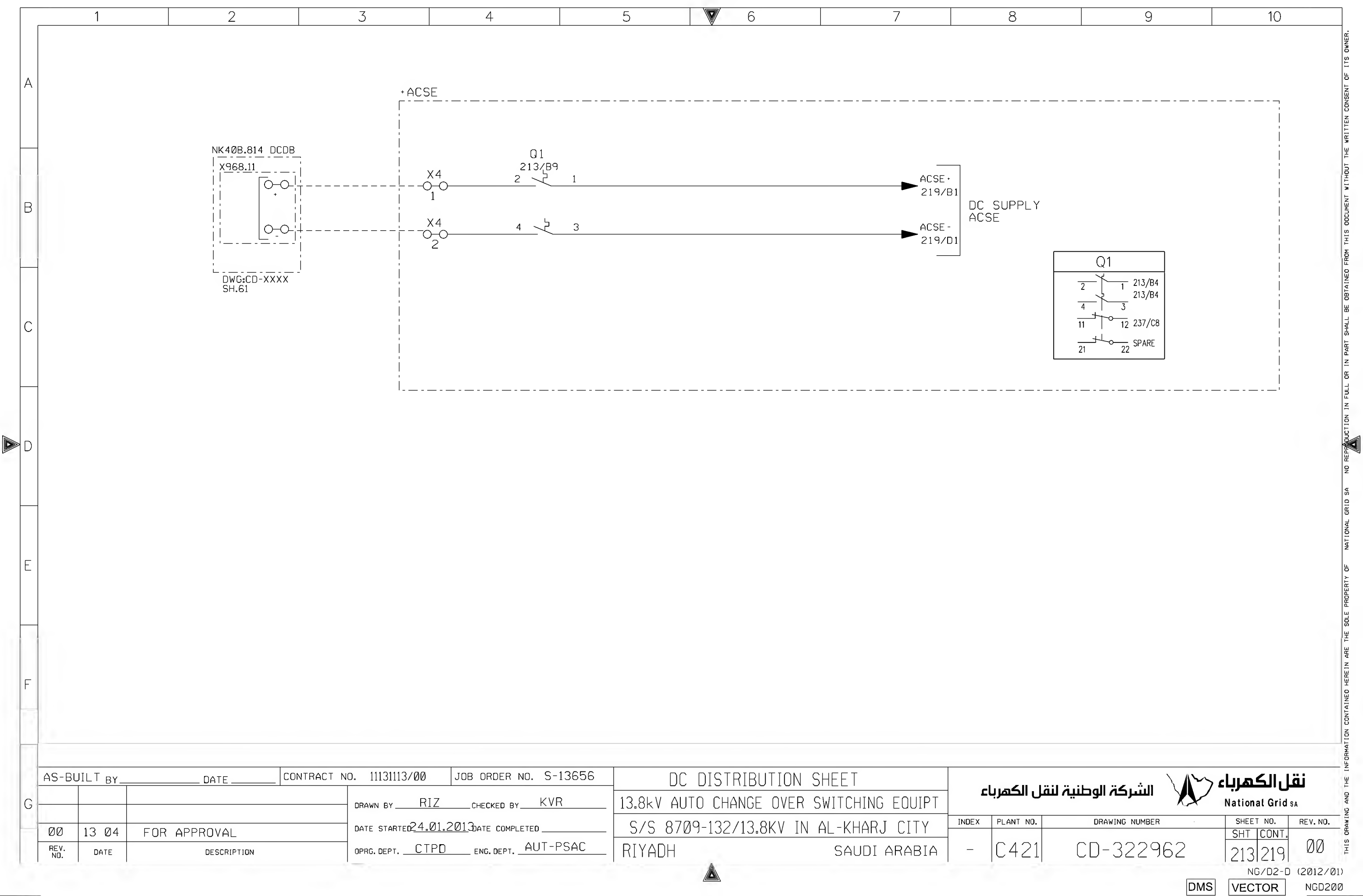
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S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH SAUDI ARABIA	

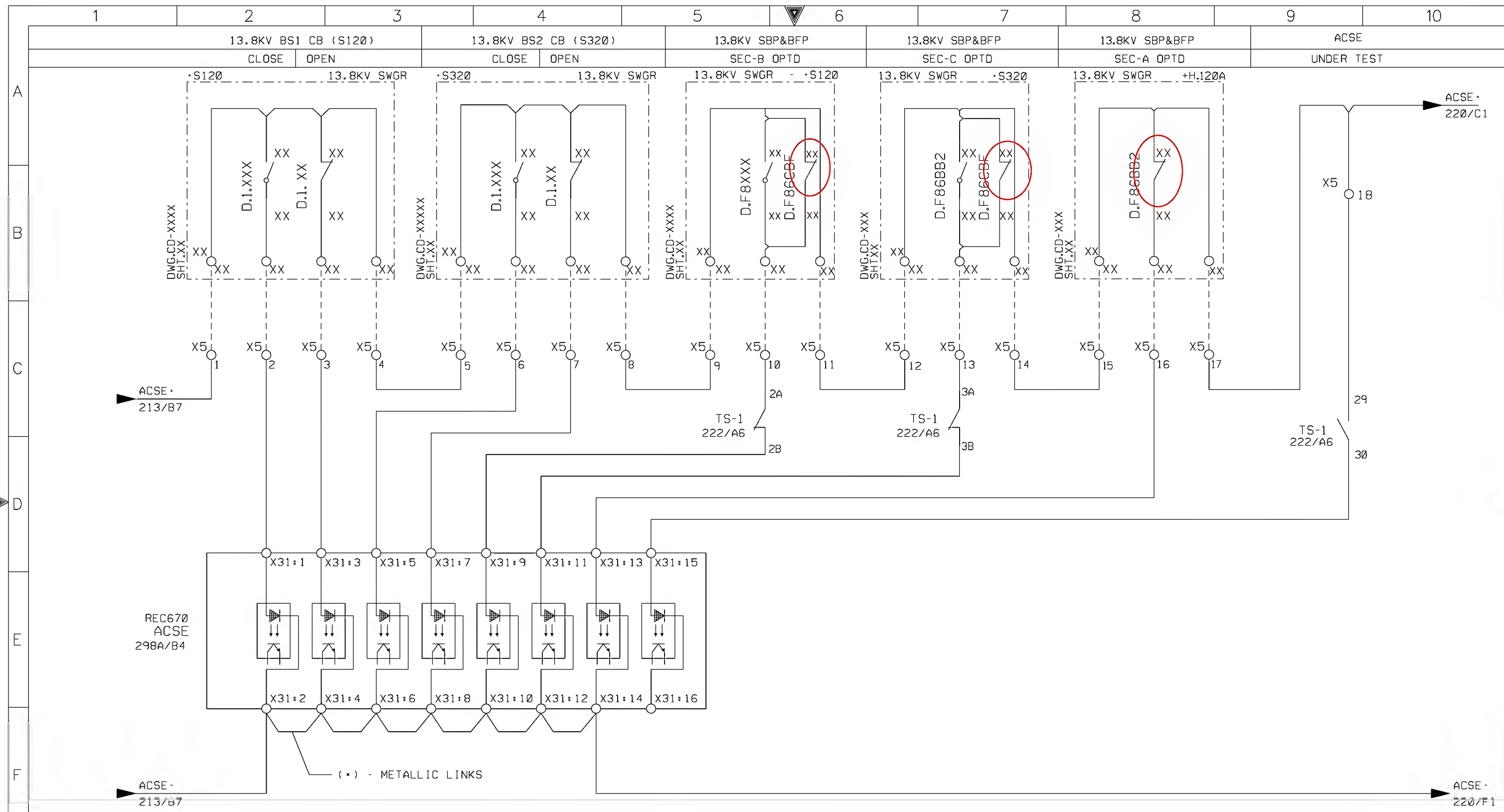
الشركة الوطنية لنقل الكهرباء		 نقل الكهرباء National Grid SA			
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322962	SHT	CONT.	00
			016	211	





AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC SUPPLY AUXILLARY CONTACTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>					
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT									
00	13 04	FOR APPROVAL		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA		-	C421	CD-322962		SHT	CONT.	00
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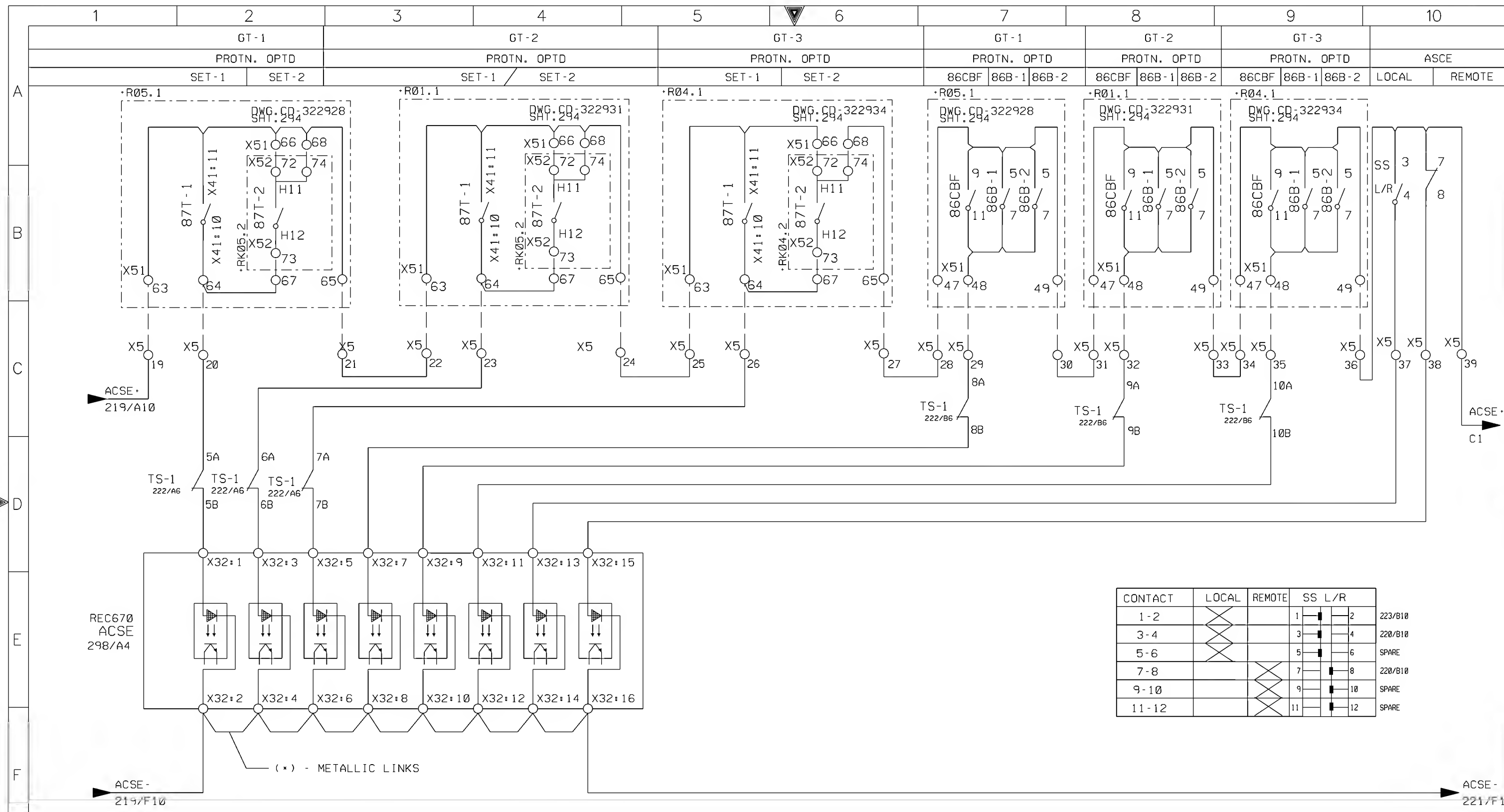




+ACSE		ACSE - 213/B7		ACSE - 220/F1	
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
DRAWN BY RIZ		CHECKED BY KVR		DATE STARTED 24.01.2013	
DATE COMPLETED _____		OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC	
REV. NO. 00		DATE 13 04		DESCRIPTION FOR APPROVAL	
ACSE INPUTS		13.8kv AUTO CHANGE OVER SWITCHING EQUIPT		S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH		SAUDI ARABIA		INDEX -	
PLANT NO. C421		DRAWING NUMBER CD-322962		SHEET NO. 219	
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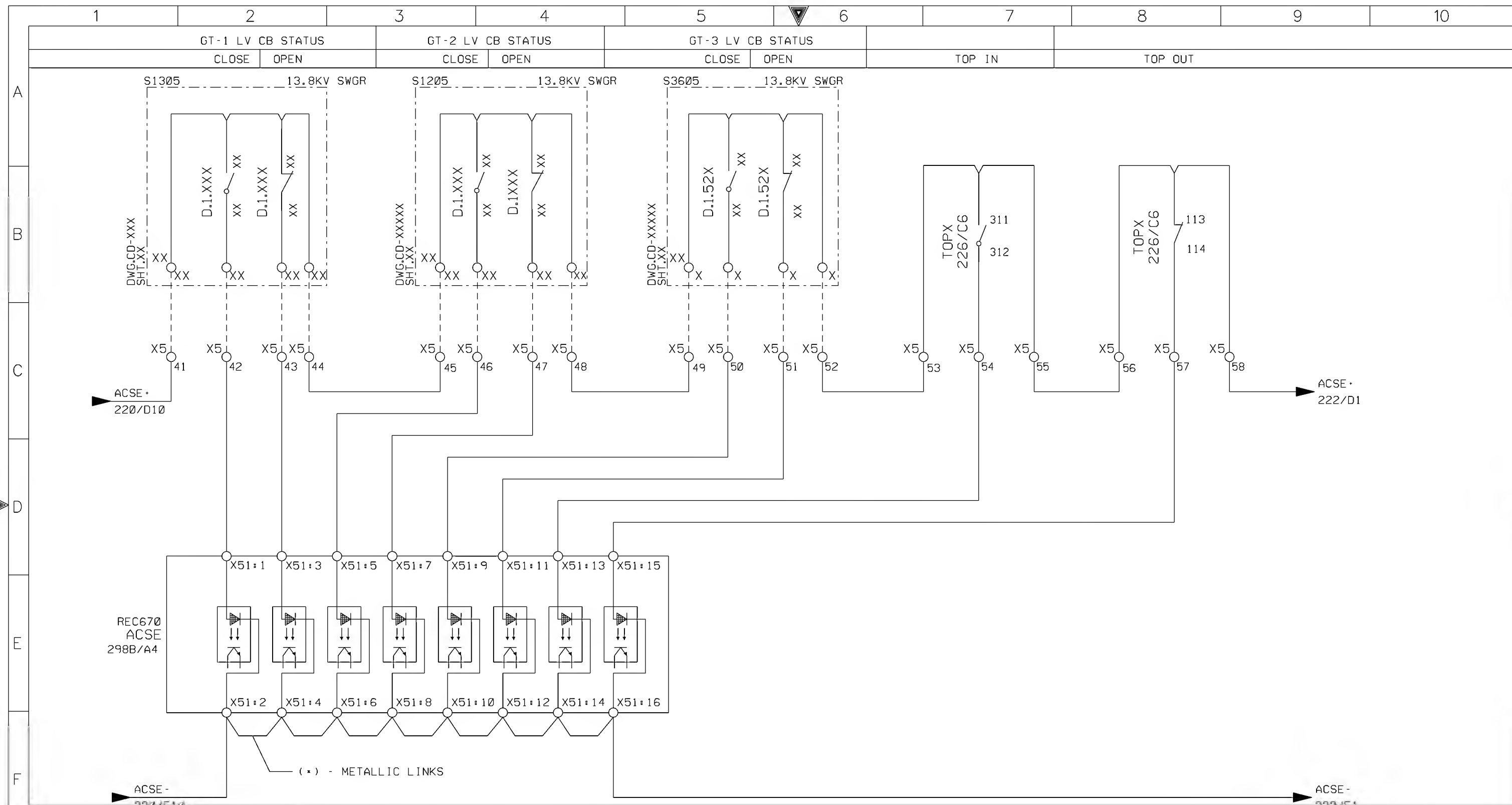






CONTACT	LOCAL	REMOTE	SS	L/R	
1-2			1	2	223/B10
3-4			3	4	220/B10
5-6			5	6	SPARE
7-8			7	8	220/B10
9-10			9	10	SPARE
11-12			11	12	SPARE

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ACSE INPUTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>	
			DRAWN BY RIZ CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT					
00 13 04 FOR APPROVAL			DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.			
REV. NO. DATE DESCRIPTION			OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		- C421 CD-322962 220/221 00			




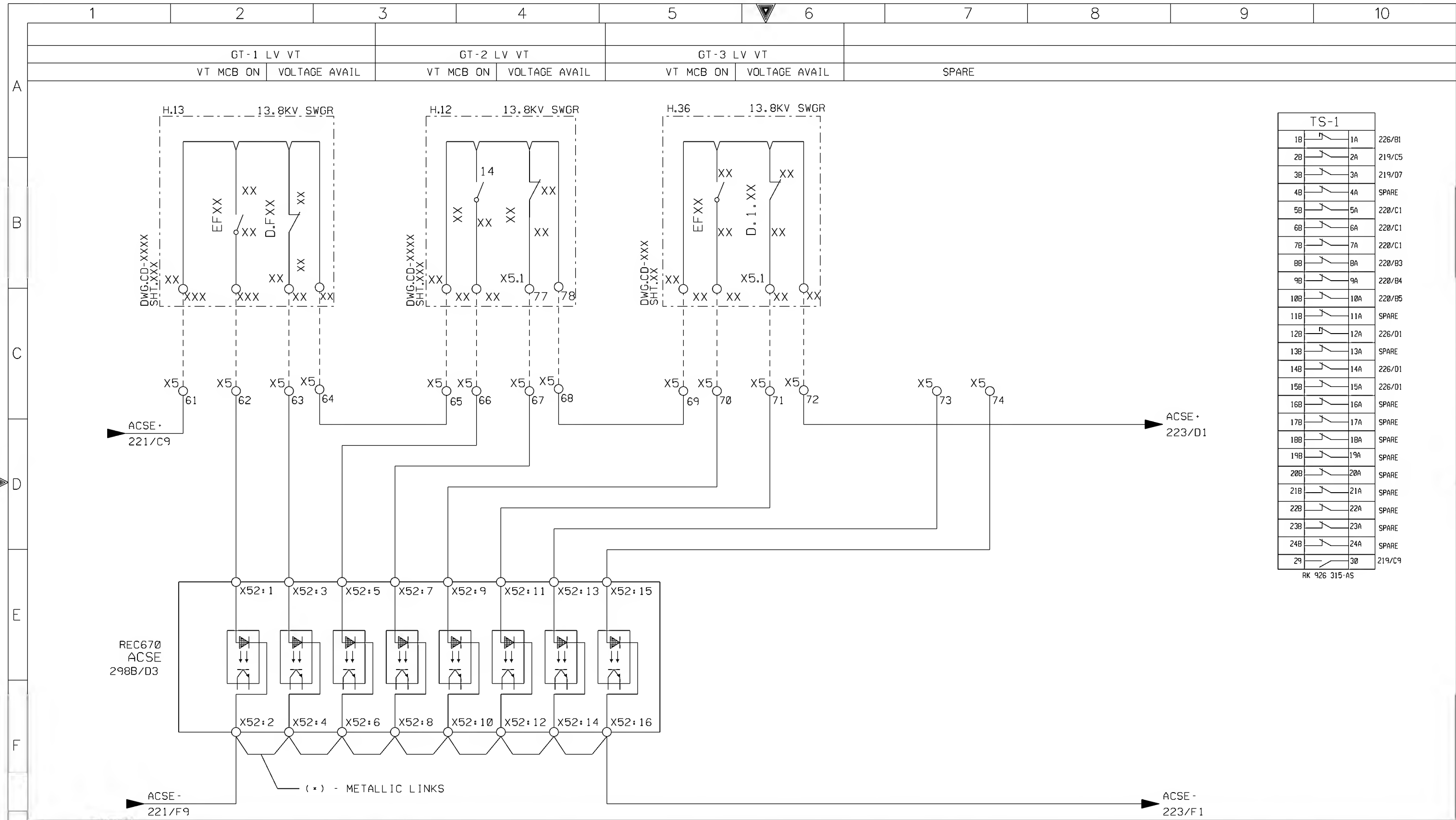
2207F10

2227F1

\* ACSE

G

AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ACSE INPUTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div><div></div><div>نقل الكهرباء</div><div>National Grid SA</div></div>						
				DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		13.8kv AUTO CHANGE OVER SWITCHING EQUIPT		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
00	13 04	FOR APPROVAL		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY						SHT	CONT.	
REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA		-	C421	CD-322962		221	222	00



TS-1		
1B	1A	226/B1
2B	2A	219/C5
3B	3A	219/D7
4B	4A	SPARE
5B	5A	220/C1
6B	6A	220/C1
7B	7A	220/C1
8B	8A	220/B3
9B	9A	220/B4
10B	10A	220/B5
11B	11A	SPARE
12B	12A	226/D1
13B	13A	SPARE
14B	14A	226/D1
15B	15A	226/D1
16B	16A	SPARE
17B	17A	SPARE
18B	18A	SPARE
19B	19A	SPARE
20B	20A	SPARE
21B	21A	SPARE
22B	22A	SPARE
23B	23A	SPARE
24B	24A	SPARE
29	30	219/C9

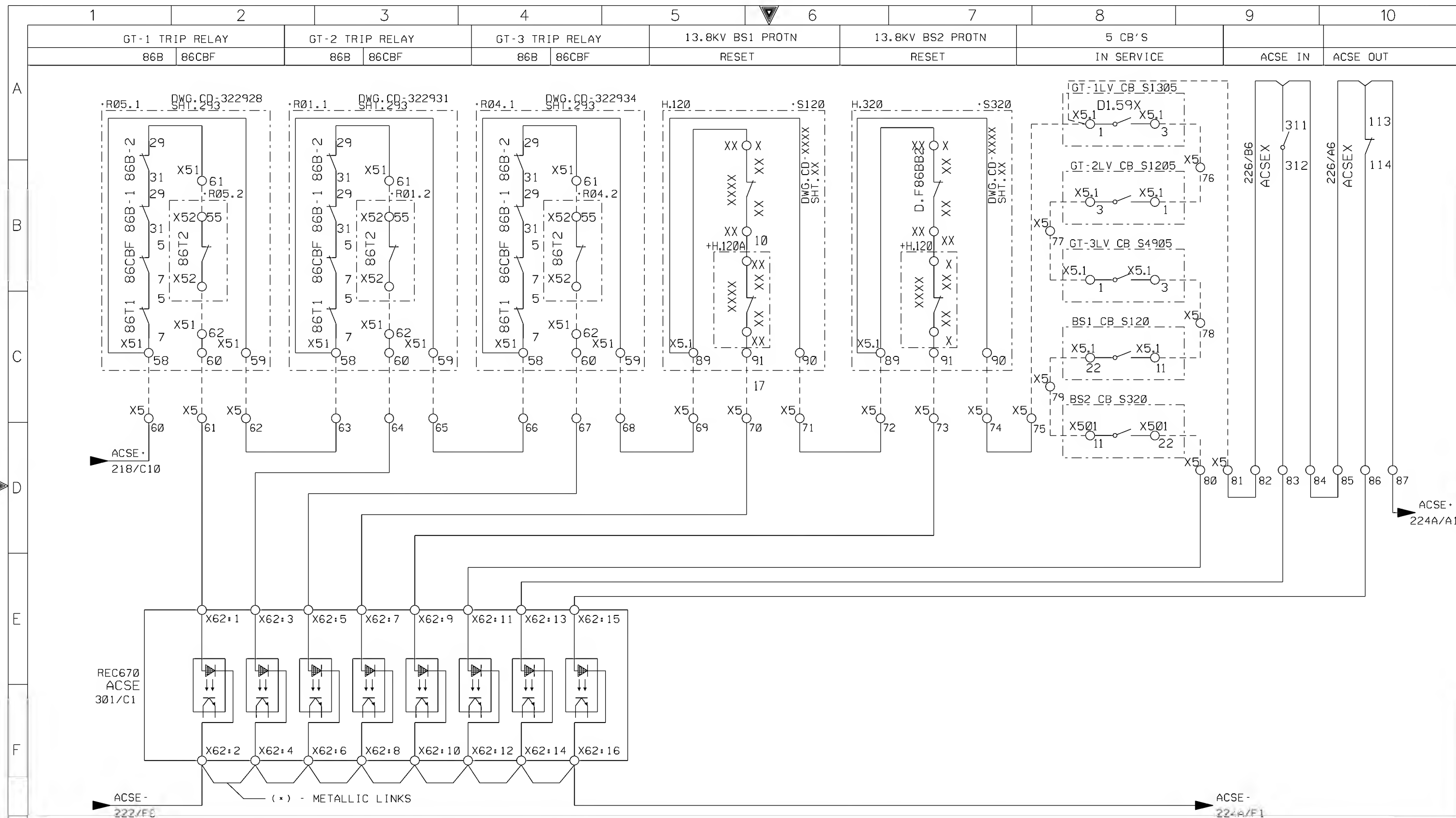
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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ACSE INPUTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>National Grid sa</div>			
			DRAWN BY RIZ CHECKED BY KVR		13.8kv AUTO CHANGE OVER SWITCHING EQUIPT							
00 13 04 FOR APPROVAL			DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX		PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
REV. NO. DATE DESCRIPTION			OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		-		C421	CD-322962	222/223	00

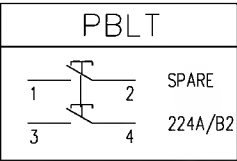
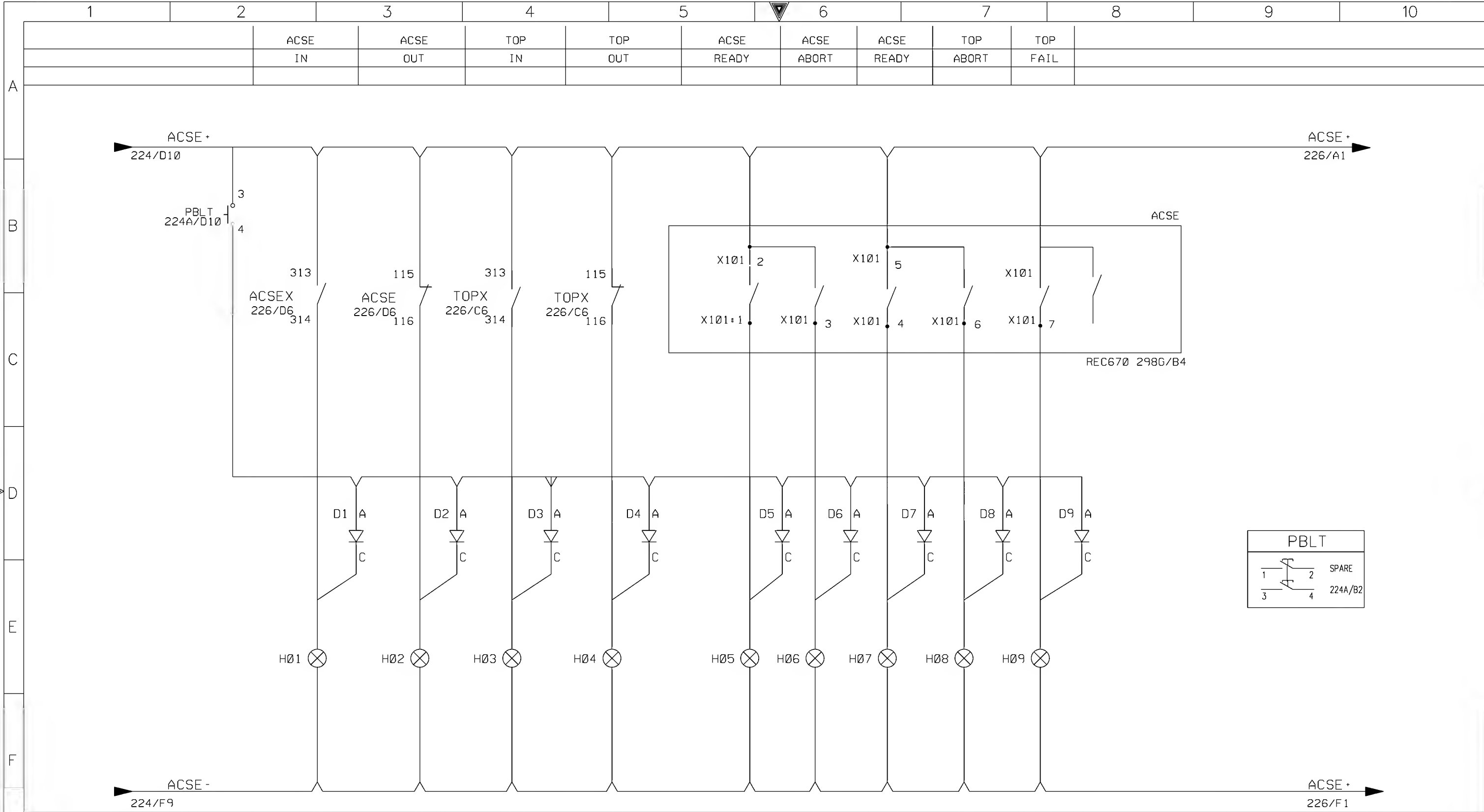
NG/D2-D (2012/01)

DMS VECTOR NGD200



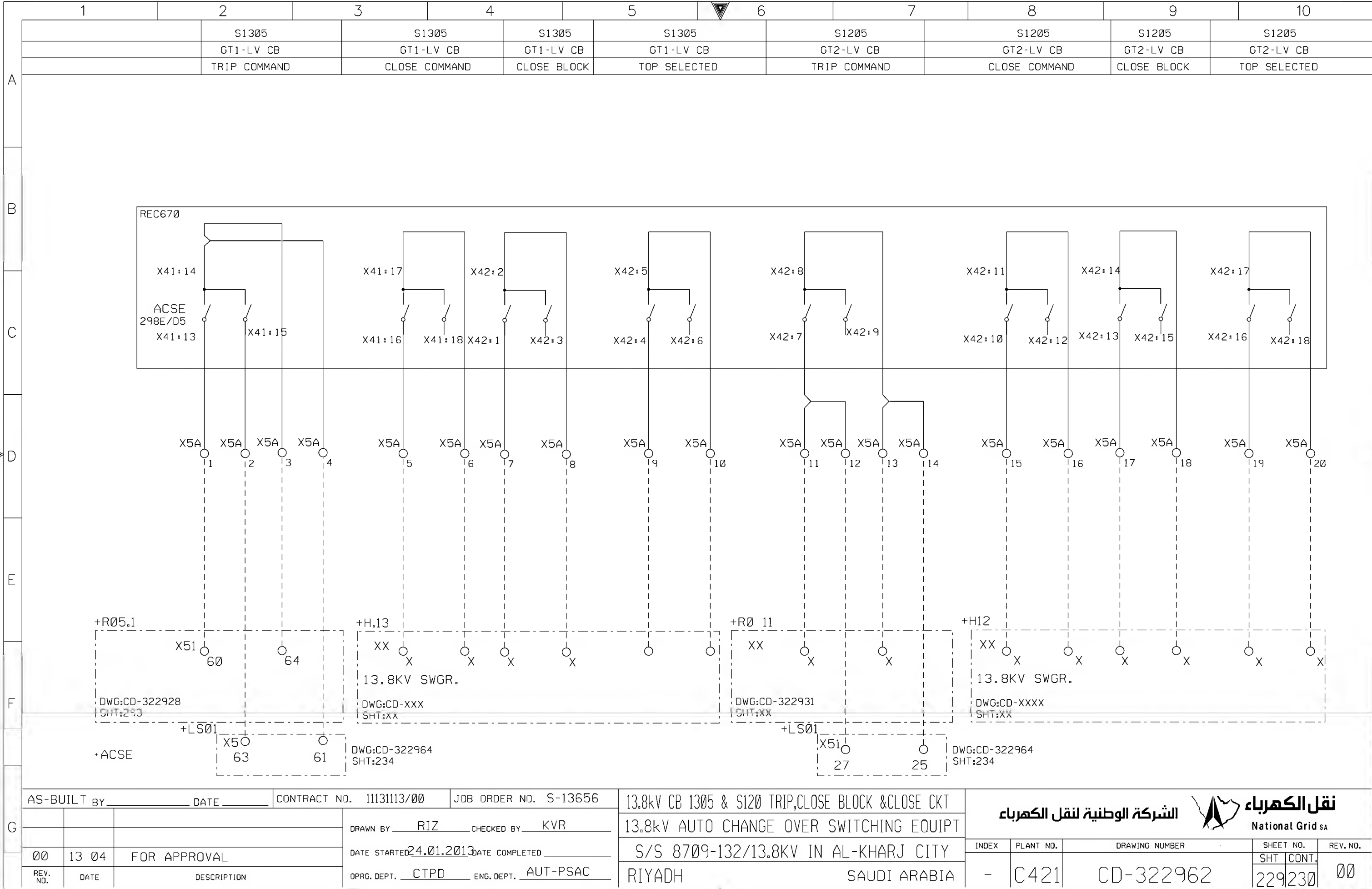


AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CONTENTS SHEET		الشركة الوطنية لنقل الكهرباء		نقل الكهرباء	
			DRAWN BY RIZ		CHECKED BY KVR		13.8kv AUTO CHANGE OVER SWITCHING EQUIPT		National Grid sa			
00 13 04 FOR APPROVAL			DATE STARTED 24.01.2013		DATE COMPLETED		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX		PLANT NO.	
REV. NO. DATE DESCRIPTION			OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		DRAWING NUMBER		SHEET NO.	
									- C421		CD-322962	
											SHT CONT.	
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											REV. NO.	
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G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ACSE INDICATION		الشركة الوطنية لنقل الكهرباء نقل الكهرباء National Grid sa						
				DRAWN BY RIZ		CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT							
	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013		DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY						
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA						
									INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
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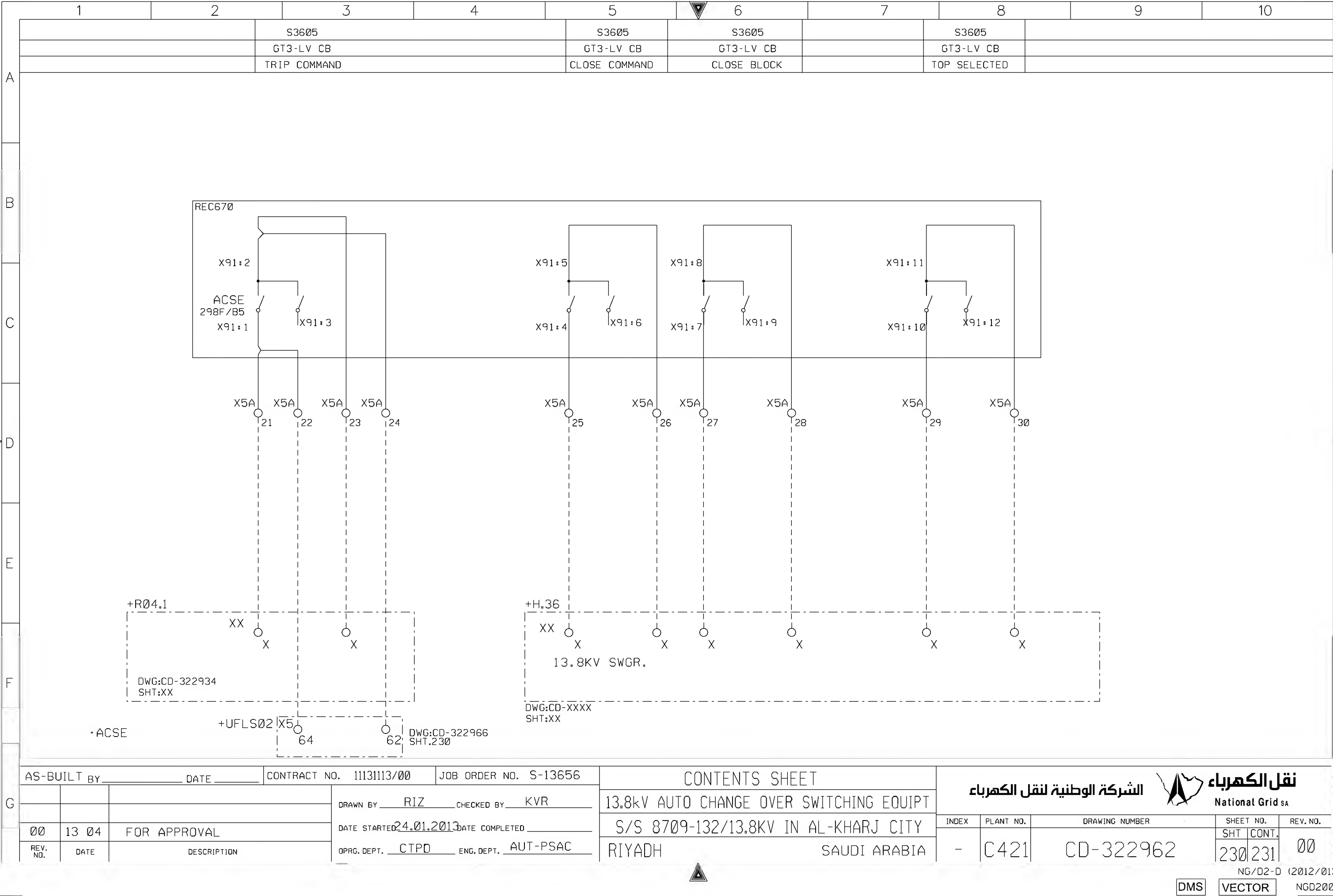
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			DRAWN BY RIZ	CHECKED BY KVR
			DATE STARTED 24.01.2013	DATE COMPLETED
00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC
REV. NO.	DATE	DESCRIPTION		

13.8kv CB 1305 & S120 TRIP,CLOSE BLOCK &CLOSE CKT  
13.8kv AUTO CHANGE OVER SWITCHING EQUIPT  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء				نقل الكهرباء	
				National Grid SA	
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
	C421	CD-322962	SHT	CONT.	00
			229	230	





AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

DRAWN BY RIZ

CHECKED BY KVR

DATE STARTED 24.01.2013

DATE COMPLETED \_\_\_\_\_

OPRG. DEPT. CTPD

ENG. DEPT. AUT-PSAC

CONTENTS SHEET

13.8kV AUTO CHANGE OVER SWITCHING EQUIPT

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

REV. NO.

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C421

CD-322962

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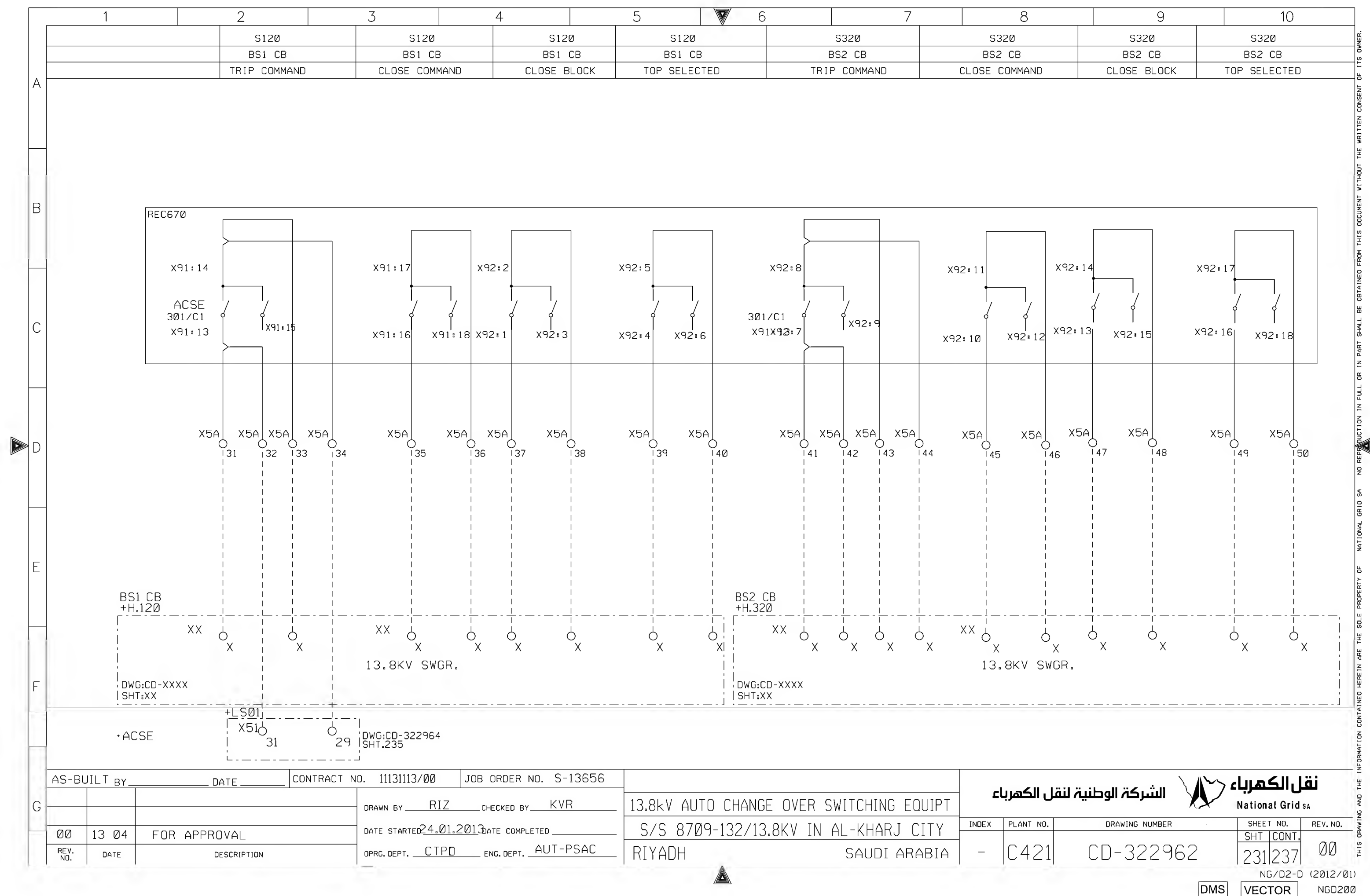
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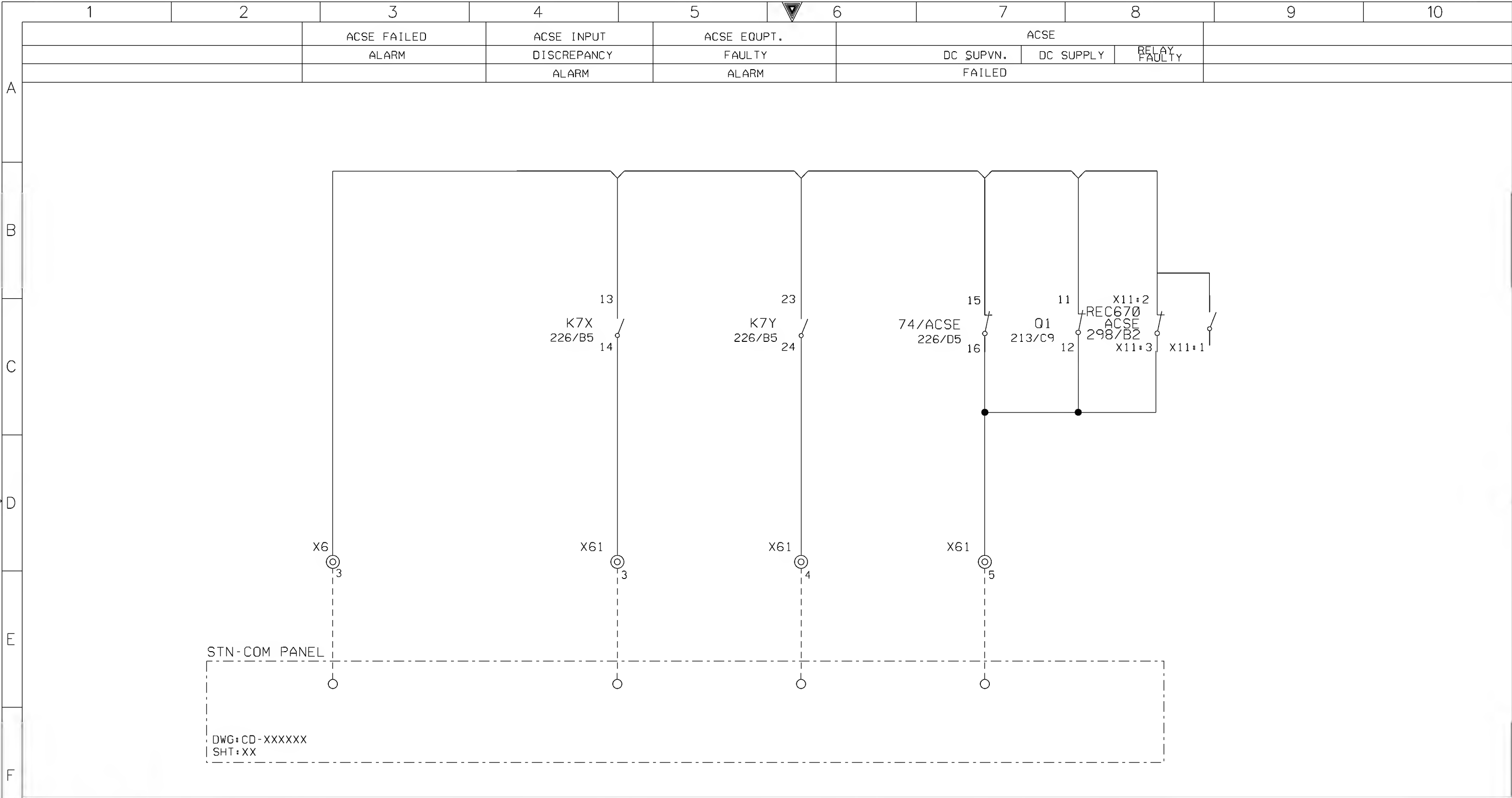
DMS

VECTOR

NGD200

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+ACSE							
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		STN.COMMON ALARM CIRUITS	
		DRAWN BY RIZ CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT		S/S 8709-132/13.8KV IN AL-KHARJ CITY	
00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED		RIYADH SAUDI ARABIA	
REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC			

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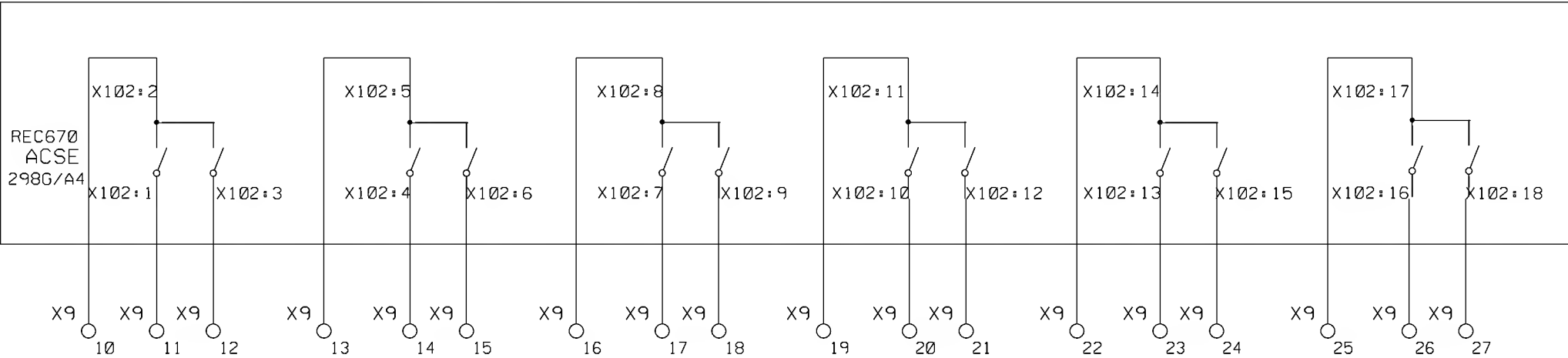
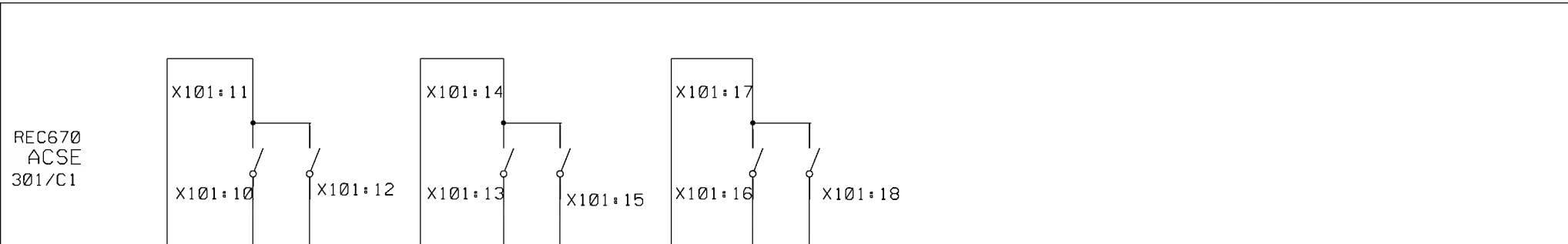
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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
			DRAWN BY <u>  RIZ  </u> CHECKED BY <u>  KVR  </u>			
			DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____			
<u>00</u>	<u>13 04</u>	<u>FOR APPROVAL</u>	OPRG. DEPT. <u>  CTPD  </u> ENG. DEPT. <u>  AUT-PSAC  </u>			
REV. NO.	DATE	DESCRIPTION				

FOR APPROVAL

SPARE CONTACTS

13.8kV AUTO CHANGE OVER SWITCHING EQUIPT  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



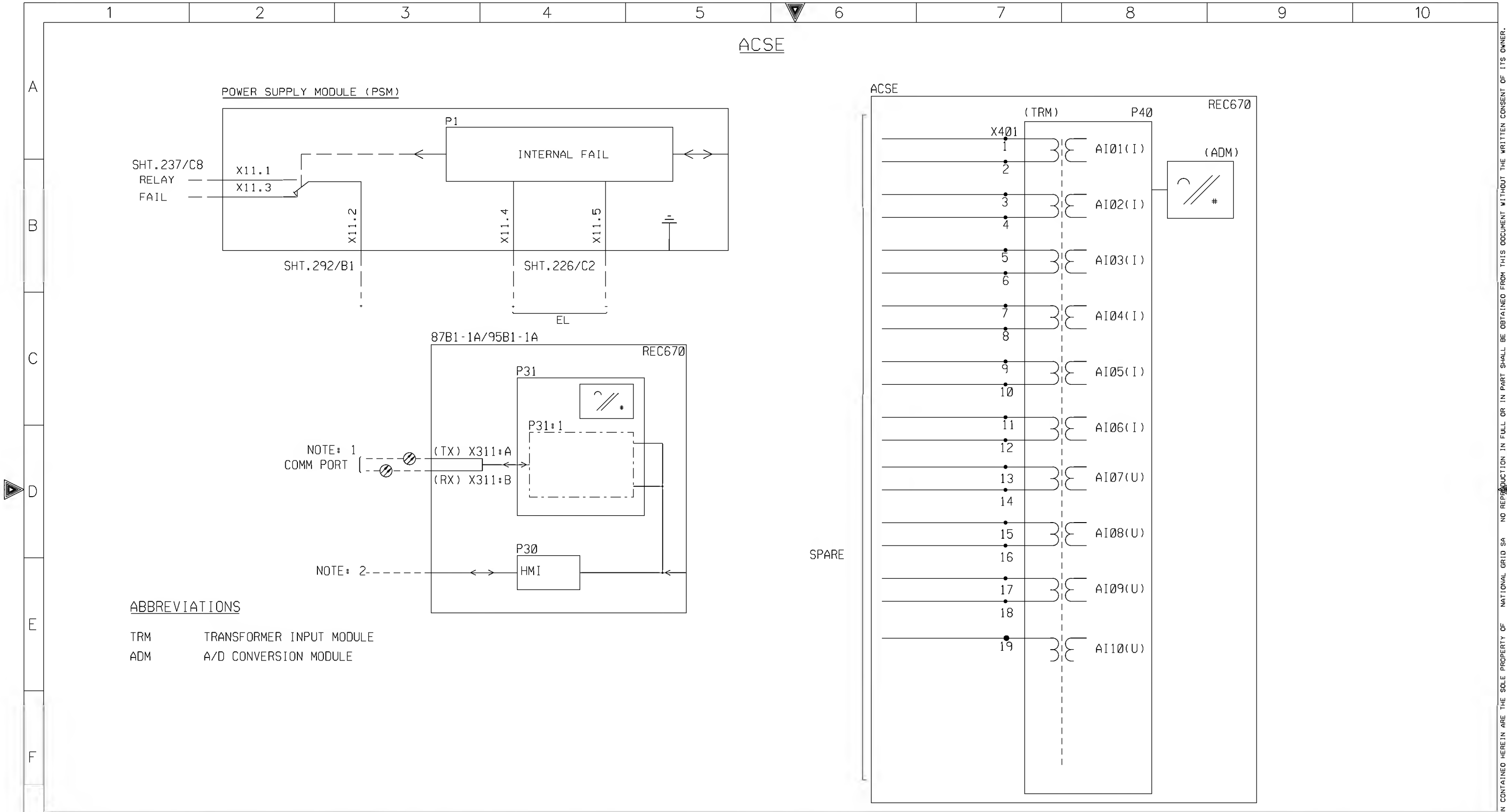
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322962	SHT	CONT.	00
			238	298	

NG/D2-D (2012/01)

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VECTOR

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AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

			DRAWN BY RIZ	CHECKED BY KVR
			DATE STARTED 24.01.2013	DATE COMPLETED
00	13 04	FOR APPROVAL	OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC
REV. NO.	DATE	DESCRIPTION		

BLOCK REFERENCE

13.8kV AUTO CHANGE OVER SWITCHING EQUIPT  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
			SHT	CONT.	
-	C421	CD-322962	298	298A	00


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B	BINARY INPUT CARD																																																																																																																																																																																																						
C	<div>ACSE</div> <div>BIM P3 REC670</div> <div>LOCATION=P3</div> <div>PLANT ADAPTED CONFIGURATION</div> <table><tr><td>SHT.219/C2</td><td>(</td><td>:</td><td>---</td><td>X31</td><td>1</td><td>BI.01</td><td>//</td><td>S120 CLOSE</td></tr><tr><td>SHT.219/C2</td><td>(</td><td>:</td><td>---</td><td></td><td>2</td><td>BI.02</td><td>//</td><td>S120 OPEN</td></tr><tr><td>SHT.219/C3</td><td>(</td><td>:</td><td>---</td><td></td><td>3</td><td>BI.03</td><td>//</td><td>S320 CLOSE</td></tr><tr><td>SHT.219/C3</td><td>(</td><td>:</td><td>---</td><td></td><td>4</td><td>BI.04</td><td>//</td><td>S320 OPEN</td></tr><tr><td>SHT.219/C4</td><td>(</td><td>:</td><td>---</td><td></td><td>5</td><td>BI.05</td><td>//</td><td>SEC-B OPTD</td></tr><tr><td>SHT.219/C4</td><td>(</td><td>:</td><td>---</td><td></td><td>6</td><td>BI.06</td><td>//</td><td>SEC-C OPTD</td></tr><tr><td>SHT.219/C5</td><td>(</td><td>:</td><td>---</td><td></td><td>7</td><td>BI.07</td><td>//</td><td>SEC-A OPTD</td></tr><tr><td>SHT.219/C5</td><td>(</td><td>:</td><td>---</td><td></td><td>8</td><td>BI.08</td><td>//</td><td>ACSE UNDER TEST</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>9</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>10</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>11</td><td></td><td></td><td></td></tr><tr><td>SHT.220/D2</td><td>(</td><td>:</td><td>---</td><td>X32</td><td>1</td><td>BI.09</td><td>//</td><td>GT1 87T1/87T2 OPTD</td></tr><tr><td>SHT.220/D2</td><td>(</td><td>:</td><td>---</td><td></td><td>2</td><td>BI.10</td><td>//</td><td>GT2 87T1/87T2 OPTD</td></tr><tr><td>SHT.220/D3</td><td>(</td><td>:</td><td>---</td><td></td><td>3</td><td>BI.11</td><td>//</td><td>GT3 87T1/87T2 OPTD</td></tr><tr><td>SHT.220/D3</td><td>(</td><td>:</td><td>---</td><td></td><td>4</td><td>BI.12</td><td>//</td><td>GT1 86CBF/86B OPTD</td></tr><tr><td>SHT.220/D4</td><td>(</td><td>:</td><td>---</td><td></td><td>5</td><td>BI.13</td><td>//</td><td>GT2 86CBF/86B OPTD</td></tr><tr><td>SHT.220/D4</td><td>(</td><td>:</td><td>---</td><td></td><td>6</td><td>BI.14</td><td>//</td><td>GT3 86CBF/86B OPTD</td></tr><tr><td>SHT.220/D5</td><td>(</td><td>:</td><td>---</td><td></td><td>7</td><td>BI.15</td><td>//</td><td>ACSE LOCAL</td></tr><tr><td>SHT.220/D5</td><td>(</td><td>:</td><td>---</td><td></td><td>8</td><td>BI.16</td><td>//</td><td>ACSE REMOTE</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>9</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>10</td><td></td><td></td><td></td></tr></table>										SHT.219/C2	(	:	---	X31	1	BI.01	//	S120 CLOSE	SHT.219/C2	(	:	---		2	BI.02	//	S120 OPEN	SHT.219/C3	(	:	---		3	BI.03	//	S320 CLOSE	SHT.219/C3	(	:	---		4	BI.04	//	S320 OPEN	SHT.219/C4	(	:	---		5	BI.05	//	SEC-B OPTD	SHT.219/C4	(	:	---		6	BI.06	//	SEC-C OPTD	SHT.219/C5	(	:	---		7	BI.07	//	SEC-A OPTD	SHT.219/C5	(	:	---		8	BI.08	//	ACSE UNDER TEST						9									10									11				SHT.220/D2	(	:	---	X32	1	BI.09	//	GT1 87T1/87T2 OPTD	SHT.220/D2	(	:	---		2	BI.10	//	GT2 87T1/87T2 OPTD	SHT.220/D3	(	:	---		3	BI.11	//	GT3 87T1/87T2 OPTD	SHT.220/D3	(	:	---		4	BI.12	//	GT1 86CBF/86B OPTD	SHT.220/D4	(	:	---		5	BI.13	//	GT2 86CBF/86B OPTD	SHT.220/D4	(	:	---		6	BI.14	//	GT3 86CBF/86B OPTD	SHT.220/D5	(	:	---		7	BI.15	//	ACSE LOCAL	SHT.220/D5	(	:	---		8	BI.16	//	ACSE REMOTE						9									10			
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				DRAWN BY RIZ	CHECKED BY KVR	13.8kV AUTO CHANGE OVER SWITCHING EQUIPT		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
				DATE STARTED 24.01.2013	DATE COMPLETED	S/S 8709-132/13.8KV IN AL-KHARJ CITY					SHT	CONT.
	00 13 04 FOR APPROVAL			OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC	RIYADH SAUDI ARABIA		-	C421	CD-322962	298A	298B 00
REV. NO. DATE DESCRIPTION												

NG/D2-D (2012/01)

DMS VECTOR

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G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		BLOCK REFERENCE		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>											
				DRAWN BY RIZ		CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT		INDEX		PLANT NO.		DRAWING NUMBER		SHEET NO.		REV. NO.		
	00	13 04	FOR APPROVAL			DATE STARTED 24.01.2013		DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY						SHT		CONT.		
	REV. NO.	DATE	DESCRIPTION			OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH		SAUDI ARABIA		-		C421		CD-322962		298B298C00





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B

C

D

E

F

G

ACSE

BINARY INPUT CARD

ACSE		BIM P7 REC670	
		LOCATION=P7 PLANT ADAPTED CONF IGURATION	
SPARE	X71		
	1	BI.01	// SPARE
	2		
	3	BI.02	// SPARE
	4		
	5	BI.03	// SPARE
	6		
	7	BI.04	// SPARE
	8		
	9	BI.05	// SPARE
	10		
	11	BI.06	// SPARE
	12		
	13	BI.07	// SPARE
	14		
	15	BI.08	// SPARE
	16		
	X72		
	1	BI.09	// SPARE
	2		
	3	BI.10	// SPARE
	4		
	5	BI.11	// SPARE
	6		
	7	BI.12	// SPARE
	8		
	9	BI.13	// SPARE
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	11	BI.14	// SPARE
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	13	BI.15	// SPARE
	14		
	15	BI.16	// SPARE
	16		

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
			DRAWN BY RIZ	CHECKED BY KVR
			DATE STARTED 24.01.2013	DATE COMPLETED _____
00 13 04 FOR APPROVAL			OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC
REV. NO.	DATE	DESCRIPTION		

CONTENTS SHEET

13.8kV AUTO CHANGE OVER SWITCHING EQUIPT  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
			SHT	CONT.	
-	C421	CD-322962	2980	298E	00

NG/D2-D (2012/01)

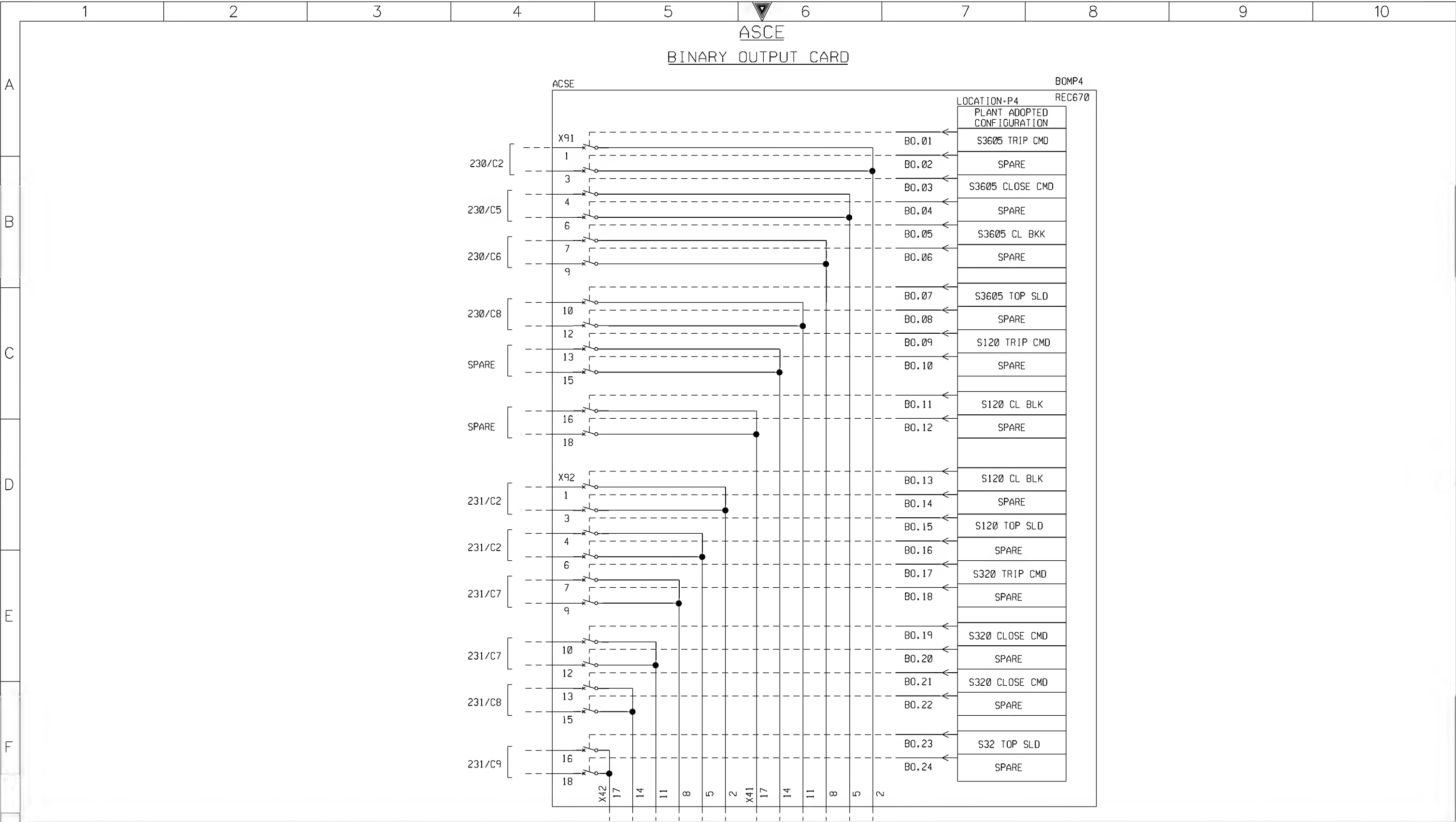
DMS

VECTOR

NGD200

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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		BLOCK REFERENCE		الشركة الوطنية لنقل الكهرباء National Grid sa	
			DRAWN BY RIZ CHECKED BY KVR		13.8kV AUTO CHANGE OVER SWITCHING EQUIPT		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.	
00 13 04 FOR APPROVAL			DATE STARTED 24.01.2013 DATE COMPLETED		RIYADH SAUDI ARABIA		- C421 CD-322962		298F 298G 00	
REV. NO. DATE DESCRIPTION			OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC						NG/D2-D (2012/01) DMS VECTOR NGD200	



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